DOCUMENT RESUME

ED 283 135 CS 008 850

AUTHOR Zafirau, S. James
TITLE Analysis of 1982-1986 Reading Discrepancies in the Cleveland City Schools.
INSTITUTION Cleveland Public Schools, Ohio.
PUB DATE Jan 87
NOTE 145p.; For the prior report for 1984-1985, see ED 269 486.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS *Black Students; Classroom Desegregation; Comparative Analysis; Curriculum Development; Elementary Secondary Education; Longitudinal Studies; Minority Group Children; *Reading Ability; *Reading Achievement; Reading Difficulties; *Reading Improvement; Reading Research; *White Students
IDENTIFIERS *Cleveland Public Schools OH

ABSTRACT

A collection of four years worth of data analyzing reading discrepancies for the Cleveland (Ohio) Public Schools is contained in this report, the fourth in a series addressing this issue. An introduction notes that data were gathered to determine the nature and extent of disparities in the reading test scores of elementary and secondary school minority and white students in this district following desegregation. A review of the literature section offers relevant information on performance trends of minority and white students, as well as information on the effects of desegregation on scholastic achievement and the possibility for school improvement. Following a brief method section, the findings section notes a lack of improvement in reading for all students, a preponderance of minority students in the bottom third reading percentile, and lists those schools whose students performed slightly better on reading tests. A final section provides an analytic summary of the report as a whole, and this is followed by a series of recommendations, including the suggestion that children with reading and attendance problems should be identified early, and that more effective strategies for ensuring their success should be implemented at the building level. (Appendixes containing a number of cross tabulation tables and an extensive bibliography are included.) (JC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED283135

CLEVELAND CITY SCHOOL DISTRICT

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ANALYSIS OF 1982-1986 READING DISCREPANCIES IN THE CLEVELAND CITY SCHOOLS

By

S. James Zafirau

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

S. James Zafirau

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Copyright © S. James Zafirau

January, 1987

CS008850

BEST COPY AVAILABLE

CLEVELAND

BOARD OF EDUCATION

STANLEY E. TOLLIVER
PRESIDENT

MILDRED MADISON
VICE-PRESIDENT

BENNY BONANNO

JAMES M. CARNEY, JR.

WESLEY A. DUMAS, SR.

JOSEPH M. GALLAGHER

RALPH J. PERK, JR.

CLEVELAND PUBLIC SCHOOLS

ADMINISTRATION

Alfred D. Tutela
Superintendent

Frank Huml
Deputy Superintendent

Harrison Dillard
Chief, Business Department

Timothy Giles
Chief, Supportive Services Department

Dr. Reginald L. Green
Assistant Superintendent
Curriculum and Instruction Department

Dr. Wanda Jean Green
Acting Chief, Research and Analysis Department

John M. Hairston
Chief, Community Relations Department

M. Bob Hamed
Chief, Transportation Department

Alan Mitchell
Financial Administrator

Warren Riebe
Acting Chief, Management, Budget and Systems Department

Thomas Simiele
General Counsel

Carl Wallace
Executive Officer
Equal Opportunity Affairs

Paul Yacobian
Treasurer

TABLE OF CONTENTS

	Page
Executive Summary	i
Introduction	1
Purpose	4
Review of The Literature	5
Method	21
Findings	23
Analytic Summary	69
Recommendations	71
Acknowledgements	72
Appendix A	73
Appendix B	90
References	103

EXECUTIVE SUMMARY

Analysis of Reading Discrepancies for 1986

S. James Zafirau

PURPOSE

The purpose of this study was to analyze and interpret spring, 1986 and prior years citywide reading data so that accurate and usable information and recommendations would be available for the related planning, curriculum design, and implementation functions of the district.

FINDINGS

1. The average student in the Cleveland City Schools during 1985-1986 maintained but did not significantly improve his/her reading achievement position relative to comparable students in a national sample.

2. During 1985-1986, the average reading comprehension score of the adversely affected students was 36.7 NCEs (26.4 percentile), with the remaining students again averaging at about the 50th percentile. The adversely affected average score has increased every year from 1982 through 1986.

3. As in 1984-1985, the Asian and Pacific Islander racial group scored the highest average pretest, posttest and gain score of any racial group during 1985-1986, with the Hispanics and blacks scoring the lowest.

4. In 1985-1986 it was again true, for each race and sex group, that those having better reading comprehension achievement scores also had a higher average daily attendance rate.

5. In general, girls scored higher in reading comprehension than boys. There were also proportionately more boys in the adversely affected group.

6. During 1985-1986 the bottom one-third reading group again had a significantly greater proportion of adversely affected students, as well as black and Hispanic students.

7. For 1985-1986 there continued to be a significant drop in average reading scores in the articulation grades--particularly at grade 7. This result was found in each of the school years since 1980-1981.

8. The bulk of the negative reading comprehension achievement results for the school district during 1985-1986 can be attributed primarily to twenty-three schools. For every two students (in each of these twenty-three schools) who moved from

below to above the 33rd percentile in reading, there were more than three students who moved across the 33rd percentile in a negative direction.

9. The Kennedy/Marshall, Collinwood, Adams/Rhodes, and Hay/West Tech clusters were the only clusters having a greater proportion of their students placing in the top one-third group than in the bottom one-third during 1985-1986. Kennedy/Marshall and Collinwood also achieved this distinction during 1984-1985.

10. Reading comprehension gains during 1985-1986 were again somewhat greater in Project Perform schools than in the comparison schools, although reading vocabulary gains were not.

RECOMMENDATIONS

1. More effective strategies for reducing the nonpromotion rate (especially in the early grades), dropout rate, and student absenteeism should be identified, implemented and evaluated at the building level.

2. The current twenty-three schools identified as having the most deficient student reading progress should be earmarked for supervisory and administrative attention, assistance and corrective action.

3. Holistic social systems strategies for increasing the effectiveness of schools (such as used in Project Perform) should continue to be developed and improved.

4. Increased effectiveness of achievement related building level oriented articulation programs should continue to be developed and implemented.

5. Even more effective ways of accelerating the academic achievement (especially in reading) of the adversely affected students need to be identified, developed, implemented, and evaluated at the building level. A districtwide implementation and evaluation plan needs to be developed, too.

6. Programs which accommodate Hispanic cultural and language heritage as well as educate for entry of Hispanics into the occupational mainstream should be created, implemented and evaluated at district, cluster, and building levels.

7. Renewed strategies for identifying programs which will effectively challenge average and above average/gifted students to excel should be jointly identified, developed, implemented and evaluated by staff at the district, cluster and building levels.

8. The Division of Testing and Evaluation, in consultation with user and consumer groups, should continually review and evaluate all tests used citywide in terms of the broad range of validity, reliability, and practical/utility issues.

INTRODUCTION

This report is the fourth in a series of studies addressing reading discrepancies in the Cleveland Public Schools. The first report, A Study of Discrepant Reading Achievement of Minority and White Students in a Desegregating School District, presented findings from analyses completed between March, 1982 and February, 1983, utilizing a data base from the 1980-1981 school year. The second report, Analysis of 1982-1983 Cleveland School District Data with Policy and Planning Implications for Student Reading Discrepancies and Attendance. Part I: Discrepant Reading Issues Study also examined characteristics of Cleveland's schools and students with respect to reading performance. This second study updated the data base to the 1982-83 school year as it considered reading discrepancy issues, the status of reading achievement parity between racial groups, and progress of students identified as being adversely affected by previous segregation in the Cleveland schools. The third report using 1984-1985 data, Analysis of 1984-1985 Cleveland School District Student Data with Policy and Planning Implications for Student Reading Discrepancies, presented analyses of student-based data, either replicating and/or refining previous analyses from three perspectives--reading discrepancy, parity, and adversely affected populations. A discussion of the causality issue was also presented.

This fourth report will continue to analyze much of the same types of data and study similar issues. Additionally, and for the first time, a longitudinal look will be taken at reading data overall and between groups between the years 1982 and 1986.

At this point in the history of the Cleveland School District, desegregation has been implemented in all schools since September, 1980. Average daily membership (grades K-12) and racial distribution data for the school district for the four school years of 1980-1981, 1982-1983, 1984-1985, and 1985-1986, which are the data bases for the three mentioned reports, show:

		Percentages				
School Year	Average Daily Membership	Black	White	Hispanic	Asian	American Indian
1980-1981	83,488.50	66.9	28.3	3.9	.6	.3
1982-1983	77,233.70	68.3	26.5	4.1	.9	.3
1984-1985	74,134.52	68.9	25.5	4.4	1.0	.3
1985-1986	73,805.66	68.9	25.3	4.5	1.0	.3

The Remedial Order stipulated that the school district conduct a study to determine the nature and extent of disparities in the reading test scores of minority and white pupils in the Cleveland Public Schools at the elementary, junior high, and senior high school levels. The Court concluded that evidence presented demonstrated that the percentage of students in Cleveland reading below average increased as the percentage of black students in particular schools increased. Subsequent recommendations of the Office on School Monitoring and Community Relations (OSMCR) have called for district studies of changes and parity in reading performance and of attendance patterns as well. This series of discrepant reading studies was the first to attempt to comply with these requests, as well as

provide more extensive reading issues information for district use than was available before. Other subsequent studies have also attempted to comply with court requirements for reading data and analyses. These have included adversely affected students studies, parity studies, Project Think studies, cost effects studies, as well as others.

PURPOSE

The purpose of this study is to analyze and interpret 1982-1986 (and particularly 1985-1986) district-wide reading data so that accurate and usable information is available for the planning, curriculum design, and implementation functions of the district.

REVIEW OF THE LITERATURE

The purposes of this literature review are to provide a context for interpreting study results and to identify promising strategies for improvement of student achievement in the Cleveland schools.

This review utilizes general library and Educational Resources Information Center (ERIC) reference sources. A computerized search of ERIC has produced more than 35,000 studies of achievement with over 1,000 studies focusing on the effects of desegregation on achievement. The search has located four studies specifically addressing desegregation effects on black and white student achievement. The massiveness of the achievement literature dictates a selective approach in identifying relevant materials for this review. Although the specific focus of this effort is black and white achievement, additional areas of the literature are potentially useful. These materials address what should be done for school improvement and can guide future directions in the school district. The review, therefore, draws examples from the literature related to the following topics:

- current trends in student achievement;
- black and white student performance patterns;
- desegregation effects on student achievement;
- school improvement and effective instruction; and
- staff development

Current Trends in Student Achievement

The National Assessment of Educational Progress (NAEP) provides the most representative indicator of stability or change in student achievement in the nation's schools. Holmes (1983), in a comparison of achievement trends in reading, science, and mathematics for 4th, 8th, and 11th grade students, concludes that while overall performance in mathematics and science declined, reading performance remained stable. Students in the lowest performance quartiles realized greater gains than did those in the highest quartiles. Although black students in both the lowest and highest quartiles showed more improvement in reading and mathematics than their white counterparts, all highest quartile 17-year-olds suffered (1983) substantial losses in mathematics and science.

The NAEP (1983), in identifying differences in performance trends in their data during the 1970's, reports that blacks were more likely than whites to show gains, though overall performance of blacks remains below that of their white counterparts. To shed further light on these findings, NAEP's panel of experts in education and social trends convened to consider these results and observed that compensatory education flourished during the 1970's; support for science dwindled; mathematics didn't get the support that reading did; mathematics and science teachers were in short supply; high school graduation requirements in both mathematics and science were eased; and the popular "back to basics" movement focused on lower level skills, perhaps at the expense of challenging more able learners.

Such trends in NAEP results over the past decade prompt conclusions by Brown (1982) in his linking of findings with policy questions that the nation's report card on educational status shows most students' passing lower level "basic" reading and writing skills and slipping in performance on higher order more complex tasks. He observes that federal programs targeted toward disadvantaged populations have been beneficial and that additional work may be needed to prepare students for the increasingly technological world of the future. Additionally, he proposes that more homework and time on trouble spots in complex writing and problem-solving might bolster youngsters' achievement.

Another significant indicator of achievement, the Scholastic Aptitude Test (SAT), shows both 1981-1982 verbal and mathematics scores for the nation's college-bound high school seniors rising over the previous year. This trend reverses a 19-year SAT score decline. The College Board (1982) concludes that this improvement, combined with 1980-1981 results holding steady from the previous year, signals that serious efforts by the nation's schools and their students to improve the quality of education are taking effect. College-bound seniors who took the SAT in 1982-1983 registered continued improvement in their average scores on the SAT mathematics section. Scores on the verbal sections, however, fell for the first time since 1980. The College Board analysis attributes the rise in the SAT math average to the improved performance by women. It suggests that the rise coincides with increases in the amount of math that women report taking in high school and parallels their increasing interest in careers in such fields as business and computer science.

At this point, consideration of the criticism of the use of SAT results as the barometer of achievement in the schools appears germane to this discussion. Taylor (1984) cautions in testimony to the House Subcommittee on Elementary, Secondary, and Vocational Education that the SAT measures experiences, both in and out of school, and is sensitive to a variety of social and economic factors. He cites that only about one-third of the number of high school graduates participate, which situation tells nothing whatsoever about the rest of the students, and the variety of educational programs in schools, districts, and states across the nation. Because the SAT does not sample all students representatively in the manner of the NAEP, Taylor dismisses the SAT results as barometers of student achievement. He adds that conclusions of the Wirtz Panel which was convened to investigate reasons for the decline of SAT scores during the 1960's and 1970's state that the majority of the score decline was attributable to the significant increase in the number of test takers.

Black and White Student Performance Patterns

While black and white student performance patterns typically receive peripheral emphasis in achievement trends literature, these patterns provide the specific focus in other recent investigations. Burton and Jones (1982) report that their review of several indicators of educational achievement of black and white youth show that differences are decreasing between black and white students, not only in levels of participation in education, but also in measures of outcomes in a variety of learning areas. Using data from the NAEP, they conclude that discrepancy in average achievement levels between black and white youth

have become smaller at ages 9 and 13 in five areas: reading, writing, mathematics, science, and social studies. They find where achievement for white students declined, black students' achievement declined less. Where whites have improved, blacks have improved more.

Results reported by NAEP (1983) for 1982 confirm a continuation of the trend identified by Burton and Jones. Black and Hispanic students at each age (9, 13, and 17) show greater progress than their white counterparts according to the test results. In the 46,000 pupil sample, students at all three age groups from heavily minority schools reflect more improvement than those from predominantly white schools.

In a comparison of black and white students scores on several measures of academic achievement [NAEP, SAT, and Graduate Record Examination (GRE)], Jones (1983) reports a significant narrowing of the gap between average scores of both groups. Jones contends that the trend is sufficiently strong and consistent to anticipate further gains in future years for average scores of black students. He is less clear about the reasons for the changes, whether they are the results of educational or social programs or a long-term effect of school desegregation. Despite the changes, he notes the test scores of black youths are still substantially lower than those of whites in many academic areas, including mathematics.

Cross-cultural studies provide additional dimensions for understanding and eliminating the black-white school performance gap. Ogbu (1978) draws upon studies of minorities in five countries--Britain, New Zealand, India, Japan, and Israel--for a more precise delineation of the barriers to blacks in the American social system than would be possible without such comparisons. Lower school performance, in his

opinion, is not itself the central problem but an expression of a more fundamental one, namely caste barriers and ideologies that support them. He contends that school reform must have as its goals, elimination of obvious and subtle ways by which blacks are prevented from receiving the kind of education that would enable them to play a constructive, competitive, and contributory adult role in the economy and society. His reform proposals include strengthening the curriculum so that children will be taught early the necessary skills they need to function adequately in adult life; improving understanding of teachers and counselors of the needs of black children; improving their attitudes and behavior toward these children; increasing parent participation in the educational process itself; equalizing resources of urban and suburban schools and of black and white schools; increasing black school personnel at all levels of the education system; and eliminating subtle ways in testing, classification, tracking, and disciplinary techniques that effectively operate against blacks.

Desegregation Effects on Student Achievement

The major question driving the more than 100 studies of test performance after desegregation is: What is the effect of desegregation on achievement of black students? Crain and Mahard (1978) in their review of this literature answer that sometimes it works and sometimes it doesn't. They observe that many complicating factors make it difficult to determine exactly why desegregation has beneficial achievement effects when it does, and why it sometimes fails to produce these effects. Desegregation is most successful in raising achievement, in their opinion,

when it results in one or more of five favorable conditions: transfer of black students to schools with better facilities and better teaching; higher expectations for blacks in their new schools; new curricula and inservice preparation for teachers; peer influences characterized by higher-status, college-bound classmates with better study habits and less rebellious attitudes toward school; and discovery by black students that they can cope, both socially and academically, in their new environment. Crain and Mahard pose many unanswered questions which they view as critical to understanding the effects of desegregation on black achievement. These questions address the optimal racial composition of a desegregated school, the impact of desegregation over time, the cumulative effects of achievement changes, and impact of white and black student socio-economic status on desegregation.

Wilson (1979) studies effects of integration and class on black educational attainment contrasting the educational attainment process for blacks in segregated and integrated schools. Both positive and negative processes are embedded within integrated and segregated school settings, but a class split within the black population which exists independently of integration or segregation appears to produce ill effects for lower class black educational attainment. Wilson claims he finds no evidence for any similar split in the white sample.

Crain and Mahard (1979) provide a different framework for analysis of research studies of desegregation effects on student achievement from their earlier effort cited above. Using the body of studies from their previous review, they criticize the desegregation achievement studies as being of little value to policy-makers. They characterize this literature as policy-irrelevant rather than

methodologically bad. They argue that desegregation research has not addressed sufficiently various issues such as the age of desegregating students, composition of the schools, amount of busing of white students, provision of bilingual-bicultural education for minorities from non-English-speaking backgrounds, and the role of social class in desegregation plans. They also cite the need for "control group" designs in such research efforts, acknowledging that such control group arrangements are generally impossible to arrange when legal requirements must be observed. Without adequate "controls," they feel that research will not be able to separate out the effect of desegregation from recent national changes in achievement nor decreases and increases in black-white achievement gaps.

Student achievement literature, as represented by a reading of selected articles described above, provides a context for evaluation of achievement trends in the Cleveland district. An increasing level of black achievement nationwide coupled with evidence of beneficial effects of desegregation on black achievement offer bench marks for interpretation of findings from analyses of local data.

This literature review also provides guidance for design of strategies which will facilitate improvement of student achievement.

The following section identifies examples of key references in the literature which can guide district efforts related to school improvement and effective instruction.

School Improvement and Effective Instruction

The past five years have produced a new literature about what schools should do to make a difference in student achievement as well as a new movement to model schools accordingly. Popularized by Edmonds (1978) and others, [Austin (1981), Clark (1980), Tomlinson (1980), Phi Delta Kappa (1980), and Hersh et al (1981)] effective school tenets have been translated by state and local educational agencies into action plans to improve school effectiveness. Although the ingredients of "effectiveness" may change from study to study, there is an assumption that their effect in different schools at different times will produce similar results in all schools.

Smith and Purkey (1982), however, in their review of the literature on effective schools caution that these recipes for effectiveness may be simplistic solutions derived from non-experimental data. The "new" literature focuses on (1) the way that schools and school districts are structured and make decisions; (2) the process of change in schools and school districts; and (3) the way in which classrooms and schools can be changed to increase the time that is spent on productive instruction.

Smith and Purkey, despite their reservations about the intuitive recommendations for improvement of schools, prescribe a set of organizational and structural variable which can be set into place by administrative and bureaucratic means. In their view, school district leadership can initiate at least nine major factors. The factors produce other effects, which are "process-form" variables having to do with the climate and culture of the school. The latter conditions need to "grow"

in a school and are not subject to bureaucratic manipulation. The nine "organizational-structure" factors are identified as school-site management, leadership, staff stability, curriculum articulation and organization, staff development, parental involvement and support, school-wide recognition of academic success, maximized learning time, and district support. Smith and Purkey theorize that these nine "organizational-structure" factors sustain four "process-form" variables--collaborative planning and collegial relationships; sense of community; clear goals and high expectations commonly shared; and order and discipline. Smith and Purkey conclude that these latter conditions constitute the "dynamic" of the school and that they seem responsible for an atmosphere that leads to increased student achievement.

Shoemaker and Fraser (1981), in identifying implications from studies of effective schools also emphasize the importance of school "dynamics." They cite that the most consistent finding in the majority of studies of school effectiveness is the crucial connection between expectations and achievement. This condition structures the role of the school principal as being one of a strong leader with high expectations and orientation toward cognitive goals for their schools. Undoubtedly, more precise inservice and preservice programs for principals are needed.

Drawing upon findings from a three-year study in 34 California school districts, Deal and Celotti (1980), support the principal's role as instructional leader but conclude that reality may block their doing business as usual. In this study, educational organizations were viewed as consisting of "vertical and horizontal" segments, only loosely connected with one another, rather than being tightly knit, cohesive organizations. Given that school districts, schools and classrooms

operate independently as do individuals on each level, school principals may be able to accomplish much more as "colleagues" or "symbolic leaders" than by operating through formal channels of the school district.

Levine (1982), offers a different perspective of the administrative role in schools bent on becoming "effective." He reports administrators of the successful schools he studied as being supportive of teachers and skilled in providing a setting in which teachers could function effectively. These administrators were willing and able to interpret--and frequently bend--rules and regulations to enhance the effectiveness of their school programs. His view of teachers in these same buildings lends support to the process factors identified by Smith and Purkey (1982). He saw teachers in the improving schools as engaging in grade-level planning and decision-making, establishing instructional sequences, pacing instruction based on feedback from frequent monitoring of student progress, improving the quality of homework assignments and involving parents in students' learning. Such information reinforces the assumptions that these schools were achieving levels of collegiality and collaboration--those process variables identified by Smith and Purkey--which facilitated their academic goals.

It is clear that effective schools are effective because instruction is effective. In this selective review of literature offering perspectives for potential school improvement efforts, the classroom learning study of the International Association for the Evaluation of Educational Achievement (IEA) prepared by Levin and Long (1981) is important. The book focuses on three types of variables in classroom learning and instruction: (1) active learning time; (2) feedback and corrective procedures; and (3) instructional time. As the authors

observe, these elements are highly related to student learning outcomes, are alterable, and can be observed within a relatively short time; and can be used by teachers at any level of education. This reference offers the possibility of study by a faculty as support for a school improvement plan.

Combining research on effective schools with that on effective classrooms, Squires, Huitt and Segars (1983) delineate a model for improvement of both school and classroom. Although emphasis in their array of school strategies reinforce those identified in the body of effective schools literature, their emphasis on the classroom offers an expanded context for consideration. Key teacher behaviors in the dimensions of classroom effectiveness include planning, management, and instruction. Important student behaviors include involvement, coverage, and success. The presentation is particularly lucid in presentation of the instructional events related to quality instruction. Applying their framework of teacher-student behaviors, they specify issues for action in supervision, inservice, and other instructional improvement efforts.

The authors also delve into the research literature of desegregation and find similar school processes operating in effectively desegregated schools. Conditions which enhanced life in desegregated schools include equal and fair access by students to academic and co-curricular school programs; a perception that the principal models expectations of fair and equal treatment; school personnel's provision of positive role models for children; high expectations for all students, regardless of race or class; and inservice training that encourages self-reflection and skill building in areas promoting equal opportunity.

Information and ideas from the series of national studies and reports also deserve consideration in this literature review. Spady and Marx (1982), in a critical analysis and synthesis of nine reports maintain a comprehensive view of what excellence in schools means and how local school districts can concretely make it happen. Weighing all of the issues and needs cited in the nine reports, the authors cluster the reports' recommendations into seven operational components that are an essential part of every school's basic operations. Comparison of the nine elements--goals and curriculum priorities; standards, expectations, and requirements; instructional content and process; school organization and instructional delivery; instructional time; use of available resources; and staff roles, responsibilities, and rewards--shows general overlap with the "ingredients" of effective schools.

Brophy's analysis of research (1982) concludes that findings consistently support the fact that teachers who are effective differ systematically in classroom behavior from those who are not. Citing eight teacher characteristics associated with student learning gains as being validated by the research, Brophy believes that the challenge for school improvement projects will be to support teachers in implementing these findings. Comparison of the factors (teacher expectations, classroom management and organization curriculum pacing, active teaching, teaching to mastery, structuring learning as befits the grade level, and supportive learning environments) mirror those predicated as "effective" school components.

With a focus toward appropriate action by school districts and schools to improve education, which confront the issues in the major national reports and structure improvement efforts on a sound research

base, Spady and Marx (1984) detail appropriate planning steps for "making excellence happen." This material demonstrates an information base to establish priorities for action and a decision-making process which can guide school staffs in developing their school improvement programs.

Finally, two recent articles reporting the efficacy of tutoring over other conditions of instruction, offer thoughtful perspectives about ways to improve student learning. Bloom (1984) summarizes recent graduate studies contrasting three conditions of instruction: conventional with 30 students per teacher, mastery learning with 30 students per teacher, and tutoring with a good tutor for each student or for two or three students simultaneously. Bloom reports striking differences in final achievement measures with 90% of the "tutored" students and 70% of the "mastery learning" students attaining a level of final achievement reached by only the highest 20% of the students under conventional instructional conditions.

The second account dealing with the effectiveness of tutoring, Belcher (1984) cites the claims in a Stanford University study, that peer tutoring proved to be the most cost effective of four methods in improving math and reading skills. Apparently, increasing instructional time, a major component in school improvement efforts, appears to be a relatively poor choice from a cost-effectiveness perspective.

Staff Development

Staff development represents another topic in the literature considered to be relevant to the district's development of school programs to improve student achievement. Joyce and his associates have made major

contributions during the past five years by clarifying and validating strategies that make teacher training more effective.

Joyce and Showers (1980) delineate a model which incorporates theory, demonstration, practice, feedback, and classroom application. They stress that teachers can move from awareness of how to teach to teaching only through demonstration teaching, practice in simulated and classroom settings, in-class assistance, and feedback about their teaching. In their report on the "coaching of teaching," Joyce and Showers (1982) refine this concept, calling for teacher partners who exchange teaching and coaching roles. Coaching, as they would have it, augments the study of theory, observation of demonstrations and opportunities for practice with feedback.

McKibbing and Joyce (1982) describe findings from their study of the growth states more than 200 teachers and emphasize that teachers who otherwise would have been "passive" about using their newly acquired teaching skills were propelled into action because the social climate of their school was active and compelling. Again, they see principals having substantial effect on the social climate of their schools both by direct leadership and by freeing energy of the most active teachers within their schools.

Joyce and Showers (1983) then move to emphasis on the transfer of the "new" teaching skills to classroom use. They propose that teacher training programs should incorporate study of the transfer process itself and that instructional leaders should provide the necessary support to create the appropriate climate and settings.

In summary, the purpose of this selective review of the literature has been to provide a context for interpretation of findings and to identify ideas and recommendations from the research that have potential for support and guidance of school improvement efforts in the school district. The evidence is clear. There are factors that critically affect student achievement. Staff can structure many of these conditions in the daily life of the schools, but may require meaningful, productive training opportunities which support the improvement efforts. The prognosis is promising. The possibilities are limitless.

METHOD

This study is primarily a secondary analysis of citywide reading test data. This reading test data has resulted from the administration of CTBS reading tests in grades 1 through 12 (using appropriate forms and levels) during the spring semesters of 1982 through 1986, with a separate focus on matched 1984-1985 to 1985-1986 school year data.* This data was subsequently stored on electronically retrievable tape files, and analyzed using various appropriate descriptive and inferential statistics programs contained in the Statistical Package for the Social Sciences (SPSS). These data were analyzed in a variety of appropriate ways and are presented in the context of the related literature: a) to provide an enhanced understanding of the data, and b) to provide answers to specific questions relating to selected special issues.

Race, sex, grade level, and adversely affected status subgroups of students were described and compared using, primarily, the normal curve equivalent (NCE) form of the CTBS Reading Comprehension subtest score. The NCE is the preferred manner for expressing the test score because it is a true interval measure (unlike the percentile rank score which also

---

* Those analyses dealing with the spring, 1982 through spring, 1986 data were limited to those students having spring 1982, 1984 and 1986 reading data. Those analyses for the 1985-1986 school years were restricted to those students having spring 1984, 1985, and 1986 (pre-post match for both 1984-1985 and 1985-1986 school years) reading test data. Also various analyses may have somewhat different totals than these because other indicators such as sex, race, grade level, etc. might not be available for these records. It must be remembered throughout this study that these types of electronic data file shortfalls will and do result in some of the totals in various tables not being equal.

has a minimum test value of 1, a maximum test value of 99, and a normed average value of 50), as well as the most precise reading measure available for the CTBS Reading Test. Many statistics require interval data for their use (mean, t-test, ANOVA, etc.). Relatedly, averages (means) of NCE scores for the above subgroups were computed, and also compared using appropriate statistics.

The NCE interval measures of reading performance were also reduced to a two cell categorization of data (i.e. to those above and below the 33rd percentile) and a three cell categorization of data (below 34th, above 66th, and between 34th and 66th percentiles). This collapsing of data into two and three cell categories of data effectively destroyed the interval quality of the data as well as the one-hundred point precision of the NCE measure. Subsequently this collapsed data was analyzed as nominal and/or as two and three point ordinal data. These additional types of data manipulations were included because: a) they provide a parallel to those methods used in the separate Parity Study; b) they respond affirmatively to the recommendations of an external consultant concerning the format and methods used in reading evaluations in general; and c) they provide an interesting, complementary, useful, and in some cases a more readily understandable display of the reading data for the lay person.

FINDINGS

Introduction

The primary objective of this study was to analyze the 1982-1986 data (with a focus on the 1985-1986 school year) in order to gain further insights into what the causes of reading improvement might be within the Cleveland City Schools student population.

Causality. The author feels compelled to point out that the issue of establishing causality was and remains extremely troublesome. In the rigorous sense, causality has not been established. Moreover, it cannot be established in the rigorous scientific sense. To do so would require numerous involuntary student assignments, which would be contrary to the expected best interests of many students, into control (non-treatment) groups. This would be contrary to both ethical and educational principles. Also required would have been establishing an experimental design with controls prior to the educational events under investigation taking place. As a consequence, this investigative task has of necessity proceeded on an ex post facto (after the fact) basis. Therefore any treatment of causality must proceed on a conceptual and rational basis alone, without benefit of scientific, experimental research design. However, such rational arguments will be based on various quantitative analyses of actual data. Whether such analyses will establish causality satisfactorily in either the legal or public opinion sense will not be conjectured here. The third point to be made is that the variables ("factors") considered are restricted to those for which

some sort of usable measurement has been made. Quantitative analyses cannot be conducted on "factors" (variables) never measured. When the set of measurements falls far short of that desired, a related comment will be made. However, restraint will be observed against venturing forth with data-poor conjecturing. On the other hand causality may be suggested--if not concluded outright--from data collected and analyzed in a non-rigorous fashion. The same data may be "sliced" and viewed in several different ways so that the same educational phenomena may be seen from several different "angles" or perspectives--the purpose of which is to increase the depth and breadth of understanding.

General Analysis of Student Data

The Comprehensive Test of Basic Skills (CTBS) Reading Test is a standardized, nationally normed test of reading skills, available in various forms for use at various grade levels, grades 1-12. Most levels have vocabulary and reading comprehension subtests. The academic achievement measure of primary interest and use in this study is the reading comprehension subtest score.

The student data set was created by taking files of citywide CTBS Reading Test scores for each student, and then by adding selected variables to each student's data record by linking a composite reading test file with other files such as the computerized active pupil record (APR) file, the adversely affected file, and the attendance file. If a student did not take a particular reading test or subtest, then it is obvious that they could not be included in any of the related reading

comprehension analyses. Also, a student who did not have one of the other required indicators for a specific analysis (i.e., sex, race, grade level, etc.), was also excluded from that specific analysis. (This accounts for the slight variations in row and column totals in various tables.)

As designed, the first set of analyses* represents the matched population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. These students represent those pupils for which the district assumes fuller continuous ownership in terms of enrollment, attendance, and student outcomes for the extended 1982-1986 period. Consequentially, Grades 3 and 4 represent only those students in this 1982-1986 data base who have been nonpromoted one or two times. This matched 1982-1986 student population totaled 23,650, and was comprised of 77.6% blacks (18,344), 18.8% whites (4,453), 3.0% Hispanics (698), .4% Asian or Pacific Islanders (106), and .2% native Americans (48). Figure 1 is a graphic display of this information. Adversely affected students comprised 9.9% (2,343) and non-adversely affected students 90.1% (21,307) of the total matched population of 23,650. See Figure 2 for a display of this data. Adversely affected students have been defined by the Cleveland Public School System, in response to the Court, as those who were students in one-race schools during 1978-1979, and who did not score above the 33rd

---

* The second set of analyses will be restricted to those students having reading pretest and posttest scores for both the 1984-1985 and 1985-1986 school years. This second set of analyses will be presented in the last section titled "Selected Analyses for 1985-1986."

percentile on the 1980-1981 or 1981-1982 CTBS Reading Comprehension Tests, and did not score above the 33rd percentile on the 1980-1981 Language Mechanics Test. This multi-year matched group was 49.4% (11,684) male, and 50.6% (11,965) female. This is displayed in Figure 3. Of this entire matched group, 32.5% were in elementary schools (grades 1-6), 42.0% in junior high schools (grades 7-9), and 25.5% in senior high schools (grades 10-12). Figure 4 displays this information graphically. Figure 5 further breaks down the student population by grade level: grade 3 with 130 (.5%), 4 with 931 (3.9%), 5 with 3,381 (14.3%), 6 with 3,255 (13.8%), 7 with 3,450 (14.6%), 8 with 3,469 (14.7%), 9 with 3,008 (12.7%), 10 with 2,633 (11.1%), 11 with 2,042 (8.6%), and 12 with 1,350 (5.7%).

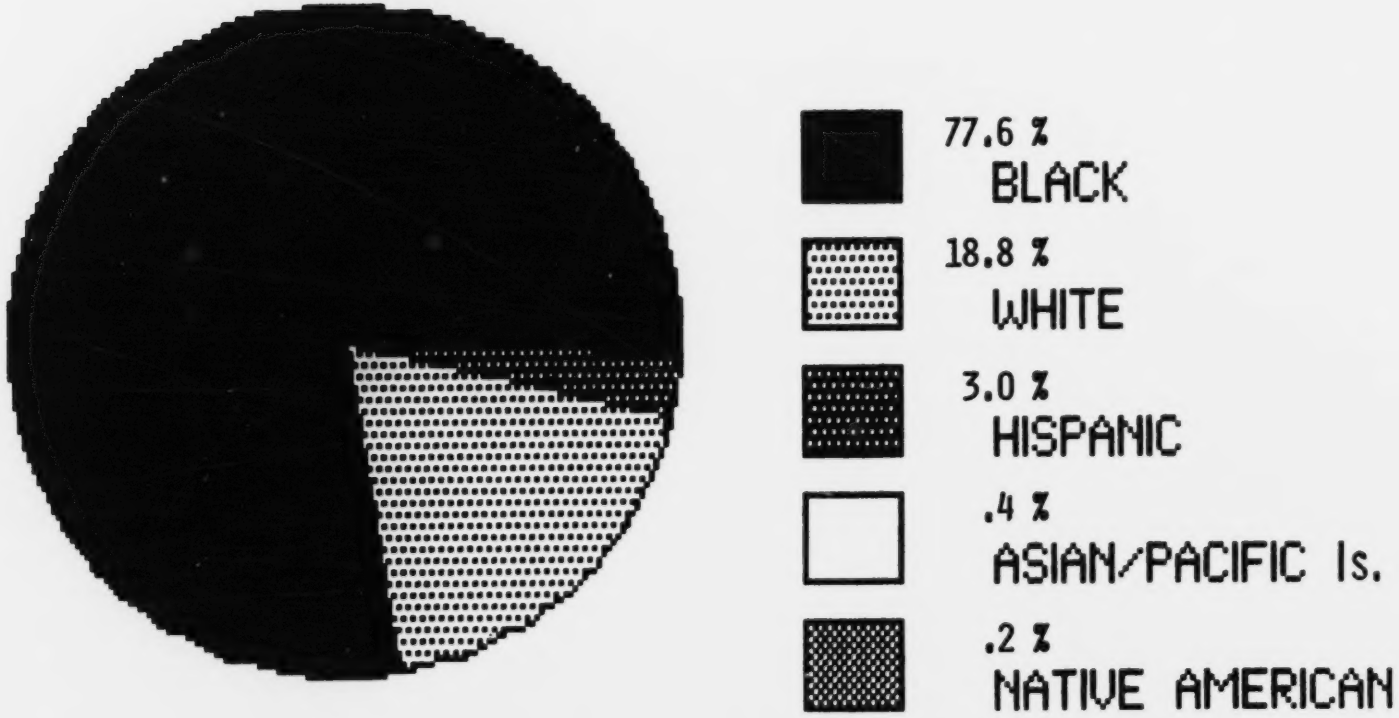
Insert Figures 1 through 5 here

Building and Grade Level Comparisons of Reading Comprehension Achievement

Each of the three prior discrepant reading studies found that the average CTBS reading comprehension score decreased from elementary to junior high to senior high school levels. This present study, based on a multi-year (1982-1986) and matched set of data, also confirmed this trend for each of the included school years (1981-1982 through 1985-1986). For example, in the spring testing of 1985-1986 the average CTBS reading comprehension NCE score was 51.2 NCEs at the elementary school level, 48.8 NCEs at the junior high school level, and 46.5 NCEs at the senior high school level. This represents an average drop of over two NCEs between

Figure 1

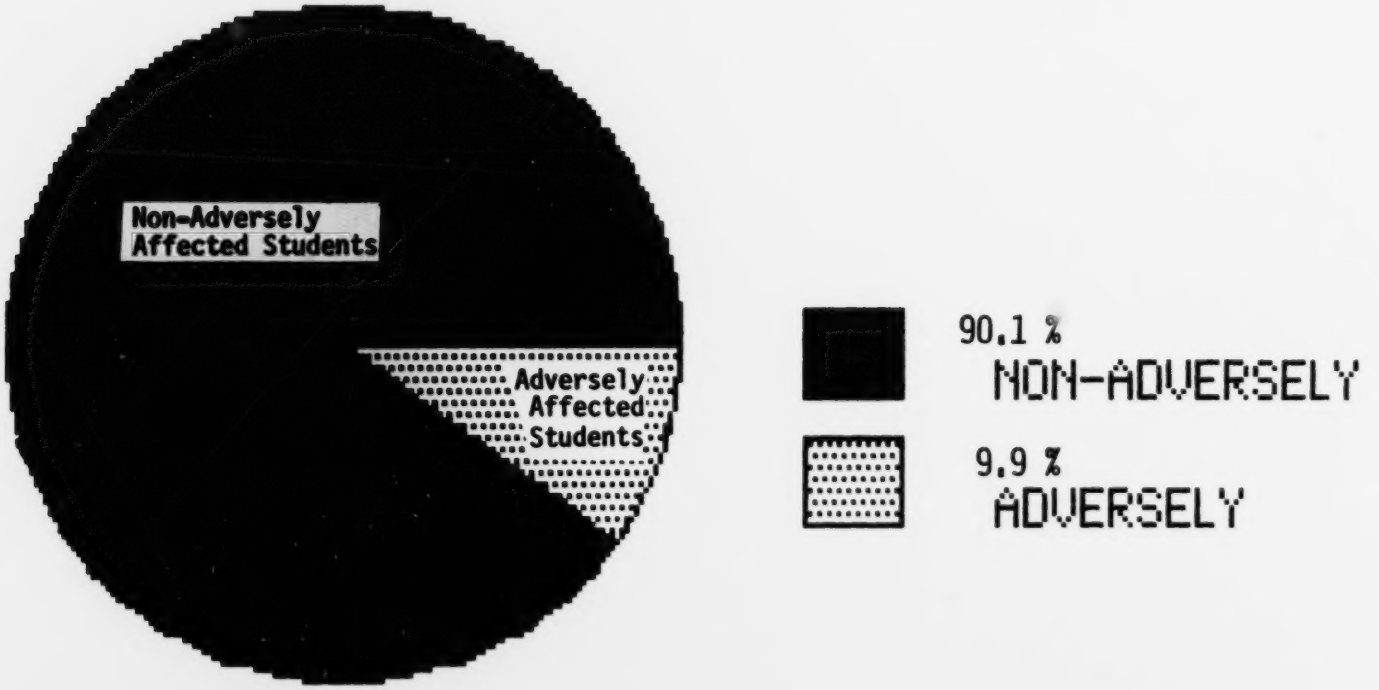
Racial Composition of the 1982-1986 population
of Students in the Cleveland City Schools*



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result.

Figure 2

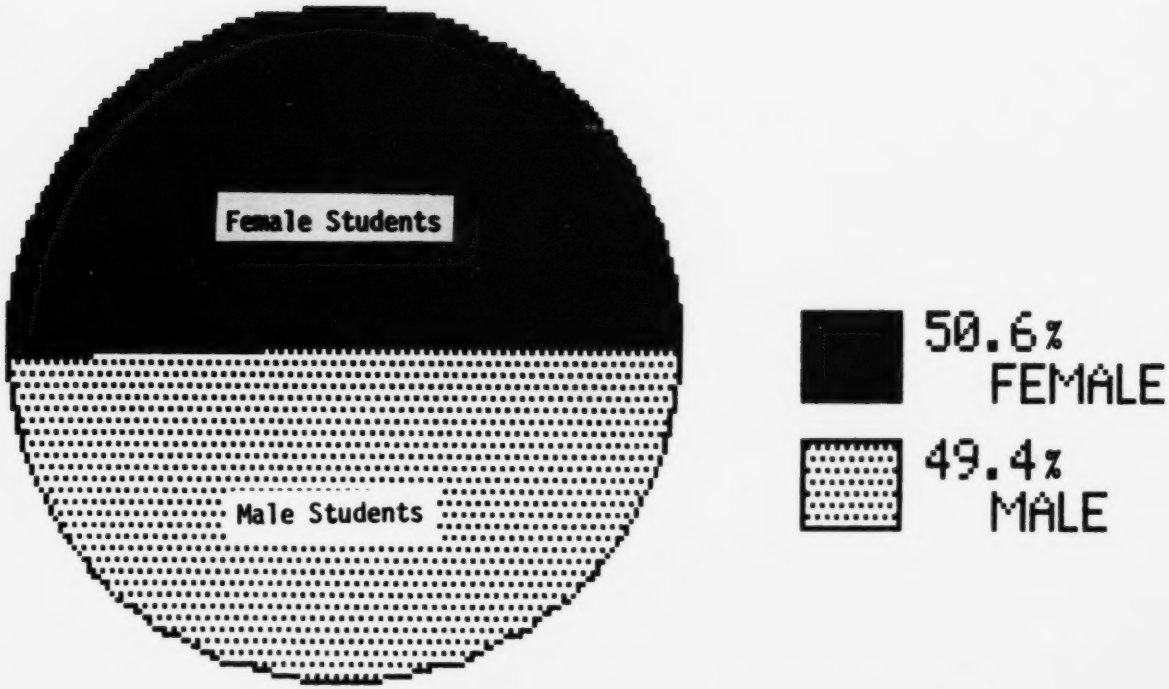
Adversely Affected Student Composition of the 1982-1986 Population of Students in the Cleveland City Schools*



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. Adversely affected students have been defined as those who were in one-race schools during 1978-1979, and who did not score above the 33rd percentile on the 1980-1981 or 1981-1982 CTBS Reading Comprehension Tests, and did not score above the 33rd percentile on the 1980-1981 Language Mechanics Test.

Figure 3

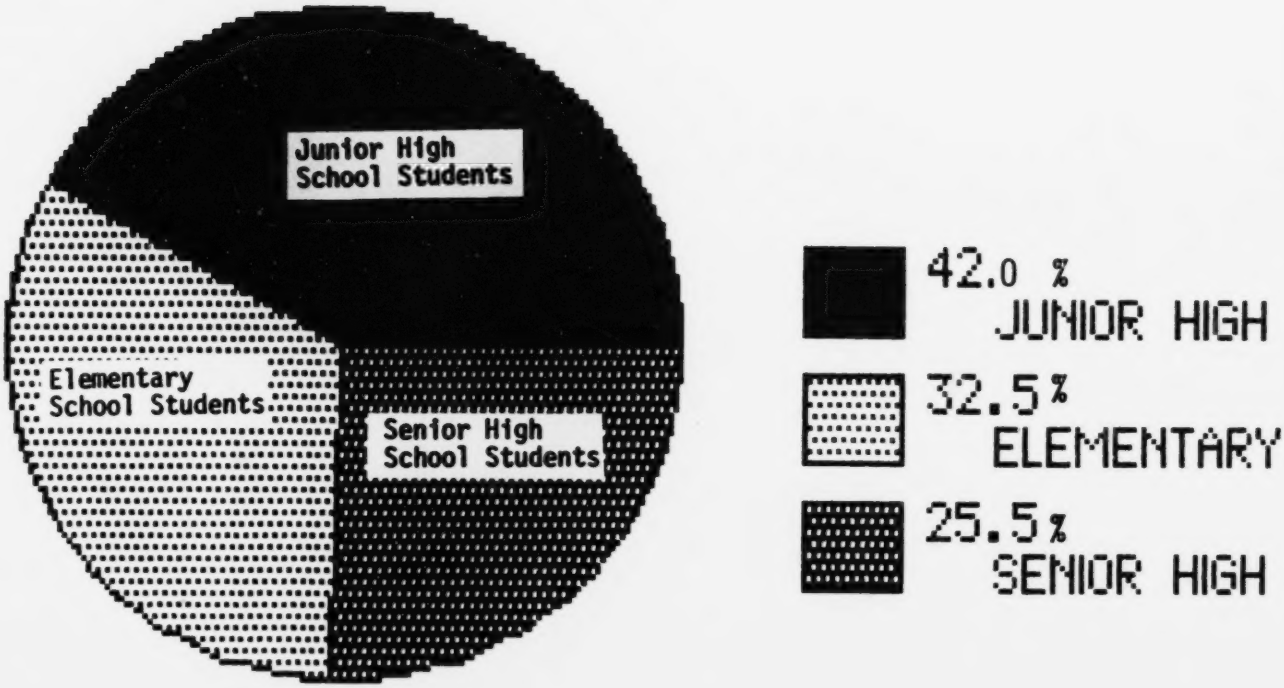
Sex Composition of the 1982-1986 Population
of Students in the Cleveland City Schools*



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result.

Figure 4

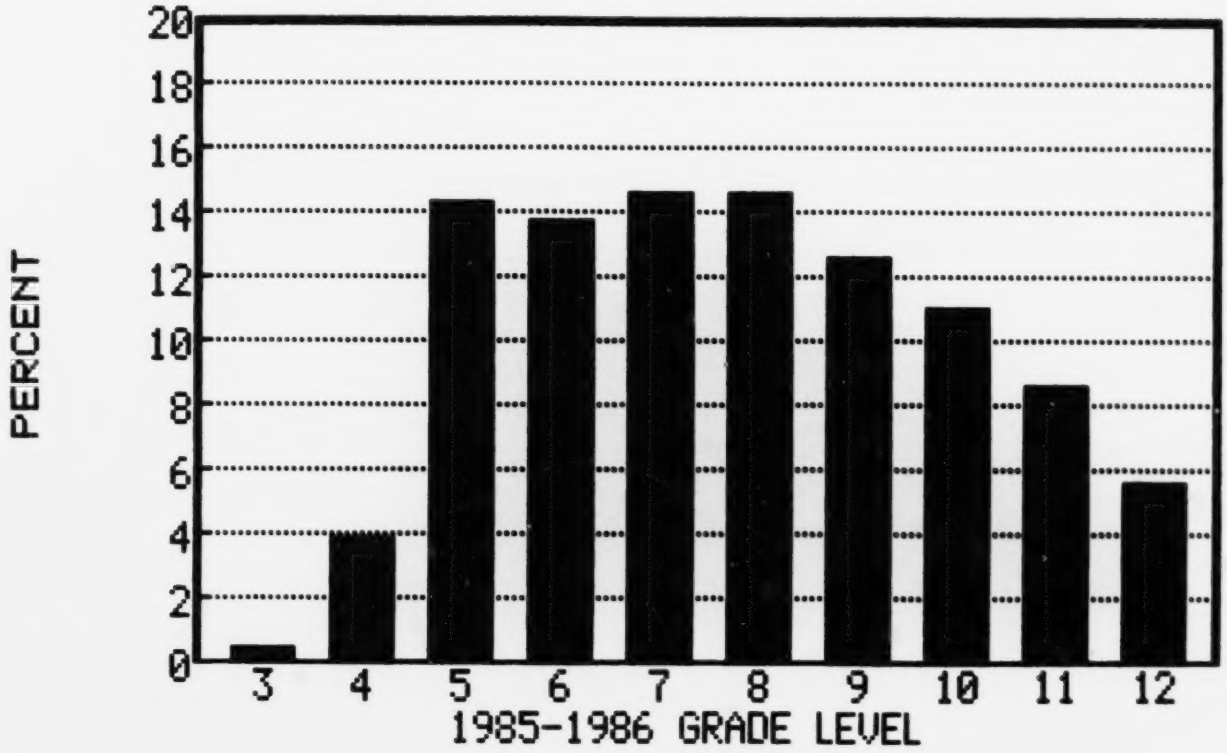
Building Level Composition of the 1982-1986 Population
of Students in the Cleveland City Schools*



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result.

Figure 5

Grade Level Composition of the 1982-1986 Population
of Students in the Cleveland City Schools*



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result.

each building level, and would have been much greater between elementary and junior high school levels had not the population been restricted to only those students having scores since 1982. This obviously omitted primary grade students, whose nationally normed average scores have been higher than those in the upper grades in recent years. Average end-of-year CTBS Reading Comprehension NCE scores presented by school year and school level are contained in Table 1.

Insert Table 1 here

A student's reading comprehension progress during a given school year can be measured by the amount and direction of change in his NCE test score compared to others at his/her grade level, using national norms. This average NCE change score, by building level, for 1985-1986 was +2.53 NCEs for elementary schools, -.09 NCE for junior high schools and -1.25 for senior high schools. This pattern of diminishing returns as the average student moved through the building levels was similar in 1985-1986 to the trend found with average end-of-year scores in the preceding section. However, these results and related trends with respect to average change scores by building level were mixed for each of the preceding three school years. A clear explanation is not immediately available. Promotion and nonpromotion factors as well as factors of student mobility in and out of the district are likely to be part of the explanation for these mixed findings. More statistical detail with respect to average CTBS reading comprehension NCE change scores, by school year and school level, are presented in Table 2.

Table 1

Average Spring CTBS Reading Comprehension NCE Scores (and Number of Students)* by School Level

School Level	School Year				
	1981-1982	1982-1983	1983-1984	1984-1985	1985-1986
Elementary (Grades 1-6)	51.7 (7,698)	50.6 (7,294)	50.3 (7,705)	48.8 (7,490)	51.2 (7,707)
Junior High School (Grades 7-9)	46.7 (9,927)	48.0 (9,524)	48.5 (9,929)	49.1 (9,238)	48.8 (9,932)
Senior High School (Grades 10-12)	45.3 (6,025)	46.4 (5,408)	47.5 (6,026)	48.0 (5,532)	46.5 (6,026)
All Levels (Grades 1-12)	48.0 (23,650)	48.5 (22,226)	48.8 (23,660)	48.7 (22,260)	49.0 (23,665)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 as a result represent only those students who have been nonpromoted one or two times. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

Insert Table 2 here

These differences in average reading comprehension end-of-year and year-long change scores are additionally broken down by grade level, school year by school year. These results are presented in Tables 3 and 4, respectively.

Insert Tables 3 and 4 here

Race Group Comparisons of Reading Comprehension Achievement

Perhaps the most central set of comparisons to this study are the reading comprehension comparisons between black and white students. Using the matched set of 1982 to 1986 student data, the average end-of-year reading comprehension score of white students was 53.7 NCEs for 1985-1986, and 47.8 NCEs for black students--a difference of nearly six NCEs. The average reading comprehension score of whites and blacks has differed by approximately five and six NCEs for each school year from 1981-1982 to 1985-1986. However, the average score for both blacks and whites has improved from about one to two NCEs over this same period, with the total (all races) average increasing from 48.0 NCEs in 1981-1982 to 49.0 NCEs in 1985-1986. Although black and white students together

Table 2

Average CTBS Reading Comprehension NCE Gain (Change) Scores (and Number of Students)* by School Level

School Level	School Year				
	1982-1986	1982-1983	1983-1984	1984-1985	1985-1986
Elementary (Grades 1-6)	-.51 (7,698)	-1.23 (7,286)	-.32 (7,294)	-1.62 (7,488)	+2.53 (7,490)
Junior High School (Grades 7-9)	+2.13 (9,927)	+1.20 (9,520)	+.60 (9,521)	+.41 (9,235)	-.09 (9,238)
Senior High School (Grades 10-12)	+1.16 (6,025)	+.89 (5,409)	+1.29 (5,408)	+.33 (5,532)	-1.25 (5,532)
All Levels (Grades 1-12)	+1.02 (23,650)	+.33 (22,214)	+.47 (22,223)	-.29 (22,255)	+.50 (22,260)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 as a result represent only those students who have been nonpromoted one or two times. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

Table 3

Average Spring CTBS Reading Comprehension NCE Scores (and Number of Students)* by Grade Level

School Level	School Year				
	1981-1982	1982-1983	1983-1984	1984-1985	1985-1986
3	34.8 (130)	45.8 (114)	35.9 (129)	41.4 (117)	46.0 (130)
4	42.1 (931)	44.9 (846)	45.6 (933)	42.6 (889)	44.1 (933)
5	55.3 (3,381)	52.5 (3,185)	53.8 (3,387)	49.1 (3,298)	51.2 (3,388)
6	51.4 (3,255)	50.4 (3,148)	48.6 (3,255)	50.4 (3,185)	53.5 (3,255)
7	48.5 (3,450)	46.9 (3,329)	48.8 (3,451)	50.7 (3,284)	48.4 (3,453)
8	44.8 (3,469)	48.6 (3,318)	49.0 (3,470)	47.7 (3,176)	48.4 (3,471)
9	46.8 (3,008)	48.7 (2,877)	47.6 (3,008)	48.8 (2,778)	49.7 (3,008)
10	47.5 (2,633)	45.7 (2,445)	48.1 (2,633)	49.2 (2,411)	47.6 (2,633)
11	42.6 (2,042)	46.2 (1,782)	46.8 (2,043)	47.1 (1,855)	45.5 (2,043)
12	45.0 (1,350)	48.2 (1,181)	47.1 (1,350)	47.1 (1,266)	45.6 (1,350)
All Grades	48.0 (23,649)	48.5 (22,225)	48.8 (23,659)	48.7 (22,259)	49.0 (23,664)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

Table 4

Average CTBS Reading Comprehension NCE Gain (Change) Scores (and Number of Students)* by Grade Level

School Level	School Year				
	1982-1986	1982-1983	1983-1984	1984-1985	1985-1986
3	+11.22 (130)	+11.43 (114)	-9.21 (114)	+5.53 (116)	+5.09 (117)
4	+2.00 (930)	+2.56 (844)	+.72 (846)	-2.91 (889)	+1.32 (889)
5	-4.14 (3,381)	-2.89 (3,179)	+1.22 (3,185)	-4.83 (3,297)	+2.18 (3,298)
6	+2.08 (3,255)	-1.02 (3,148)	-1.84 (3,148)	+1.80 (3,185)	+3.13 (3,185)
7	-.12 (3,450)	-1.80 (3,326)	+2.03 (3,327)	+1.80 (3,282)	-2.17 (3,284)
8	+3.64 (3,469)	+3.70 (3,317)	+.58 (3,317)	-1.54 (3,175)	+1.01 (3,176)
9	+2.96 (3,008)	+1.80 (2,877)	-1.03 (2,877)	+.98 (2,778)	+1.11 (2,778)
10	+.13 (2,633)	-2.10 (2,445)	+2.73 (2,445)	+.77 (2,411)	-1.28 (2,411)
11	+2.83 (2,042)	+3.46 (1,782)	+.78 (1,782)	+.14 (1,855)	-1.32 (1,855)
12	+.65 (1,350)	+3.17 (1,181)	-.93 (1,181)	-.24 (1,266)	-1.10 (1,266)
All Grades	+1.02 (23,649)	+.33 (22,213)	+.47 (22,222)	-.29 (22,254)	+.50 (22,259)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

comprise ninety-five percent of the Cleveland Public Schools population, it is useful to similarly examine the remaining three ethnic groups. Average 1981-1982 and 1985-1986 reading comprehension NCE scores were, respectively: 53.3 and 56.1 for forty-eight native Americans, 53.0 and 56.7 for 106 Asians and Pacific Islanders, and 48.6 and 47.8 for 698 Hispanics. Of these five ethnic groups Hispanic students were the only ones which showed a net decline in average reading comprehension score during this period. For four of the five years between 1981-1982 and 1985-1986 the average Hispanic reading comprehension score declined. Statistical detail, by race and school year, of average reading comprehension end-of-year and change scores is contained in Tables 5 and 6, respectively.

It is interesting to note that the average score for any given year for this multi-year matched group is much better than the average score for the student population taken as a whole during any corresponding single year. A reasonable inference from this is that excessive mobility and absenteeism have a negative effect on a student's achievement scores. Highly mobile and absent students are much more unlikely to have scores for each of the requisite years than the remaining students.

Insert Tables 5 and 6 here

Comparisons Between Adversely Affected and Non-Adversely Affected Students

Closely related to the racial group comparisons, and directly related to the effects of the past practice of education in one-race

Table 5

Average Spring CTBS Reading Comprehension NCE Scores (and Number of Students)* by Race

Race	School Year				
	1981-1982	1982-1983	1983-1984	1984-1985	1985-1986
Native American	53.3 (48)	53.1 (46)	51.8 (48)	53.7 (46)	56.1 (48)
White	52.1 (4,453)	52.4 (4,092)	53.2 (4,453)	53.4 (4,111)	53.7 (4,454)
Black	46.9 (18,344)	47.6 (17,388)	47.7 (18,353)	47.5 (17,385)	47.8 (18,356)
Asian or Pacific Islander	53.0 (106)	55.5 (88)	55.1 (106)	56.3 (102)	56.7 (106)
Hispanic	48.6 (698)	47.2 (611)	49.1 (699)	48.8 (616)	47.8 (700)
All Races	48.0 (23,649)	48.5 (22,225)	48.8 (23,659)	48.7 (22,260)	49.0 (23,664)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

Table 6

Average CTBS Reading Comprehension NCE Gain (Change) Scores (and Number of Students)* by Race

Race	School Year				
	1982-1986	1982-1983	1983-1984	1984-1985	1985-1986
Native American	+2.90 (48)	-.61 (46)	-1.22 (46)	+1.85 (46)	+2.72 (46)
White	+1.60 (4,453)	+.12 (4,092)	+.85 (4,091)	+.01 (4,110)	+.50 (4,111)
Black	+.93 (18,344)	+.45 (17,378)	+.30 (17,386)	-.34 (17,382)	+.51 (17,385)
Asian or Pacific Islander	+3.64 (106)	+1.05 (88)	+2.59 (88)	+.43 (102)	+1.05 (102)
Hispanic	-.76 (698)	-1.75 (609)	+2.45 (611)	-1.33 (615)	-.03 (616)
All Races	+1.02 (23,649)	+.33 (22,213)	+.46 (22,222)	-.29 (22,255)	+.50 (22,260)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

(segregated) schools, are issues relating to the differential achievement of those students who were adversely affected by these prior segregation practices in the Cleveland City Schools. It has been the view of various federal courts that segregated (one-race) schools are harmful to students of all races and are inherently unequal.

As a consequence of the Remedial Order, students adversely affected by segregation were identified. Attendance at one-race schools, plus low test scores, together determined who were labeled as adversely affected. Only twenty schools of the then one-hundred and seventy-seven (177) schools in the district (131 elementary, 29 junior high, 12 senior high, and 5 special schools) were determined not to be segregated (one-race). The students identified as adversely affected were primarily minority students (but not exclusively) who had been educated in segregated schools prior to desegregation, and who also scored at or below the 33rd percentile (using national norms) on the 1980-1981 and 1981-1982 CTBS Reading Comprehension Tests and the 1980-1981 Language Mechanics Test. Those not tested in the spring were tested in a supplemental testing in the fall, if at all possible, so as to reduce the number of absentees/missing test scores. Students who still lacked any of these critical test scores were retained as part of the identified adversely affected group on the assumption that such a lack indicated high absenteeism with possible, if not also probable, low but untested reading and language skills. Out of the 85,424 students identified as being in one-race schools as of October, 1978; 11,294 were identified as of June, 1983 as both still being active as students in the Cleveland City Schools and as having not scored above the 33rd percentile on each of the three

screening tests. Of this initial list of 11,294 identified and active students who were identified as being adversely affected, 2,343 remained with test data for inclusion in the present study of 1982-1986 matched data.

Of all of those students in the school district who had matched scores for 1982-1986 (23,650), 9.9 percent (2,343) were adversely affected and 90.1 percent (21,307) were not.

In 1985-1986, there were important differences between the adversely and the non-adversely affected student populations with respect to their racial composition, as has been true since such records have been kept. Of the total group of students who had CTBS reading comprehension achievement test scores for both spring of 1982 and spring of 1986, the racial composition percents for the adversely affected group compared with the non-adversely affected group were: 89.0% vs. 76.3% for blacks, 10.2% vs. 19.8% for whites, .6% vs. 3.2% for Hispanics, .1% vs. .2% for native Americans, and none vs. .5% for Asian or Pacific Islanders, respectively. In other words, black students are the only group which comprises a greater proportion of the adversely affected group than it does of the non-adversely affected student group. The Hispanic, native American, and Asian or Pacific Islander racial groups each had a non-adversely affected student population that was proportionately at least twice as great as its adversely affected student population. See Table 7 for more statistical detail.

Insert Table 7 here

Table 7

Percent (with total number) of 1982-1986 Students* in Each Student Group by Race

Student Group Type	Black	White	Hispanic	Native American	Asian or Pacific Islanders	Combined Row Total
Adversely Affected	89.0 (2,085)	10.2 (240)	.6 (15)	.1 (3)	0 (0)	100 (2,343)
Non-Advers. Affected	76.3 (16,259)	19.8 (4,213)	3.2 (683)	.2 (45)	.5 (106)	100 (21,306)
Combined Total	77.6 (18,344)	18.8 (4,453)	3.0 (698)	.2 (48)	.4 (106)	100 (23,649)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

The proportion of males in the adversely affected group was greater at 59.3 percent than in the non-adversely affected group (48.3). Correspondingly, the opposite pattern was found for females, at 40.7 percent and 51.7 percent, respectively. Details of these facts are presented in Table 8.

Insert Table 8 here

In the spring of 1982 the adversely affected students (who had matched 1986 scores) had an average reading comprehension score of only 27.8 NCEs, in contrast to 50.2 NCEs for the non-adversely affected students who had matched 1986 scores. However, by the spring of 1986 this same adversely affected group's average score increased by 9.0 NCEs to 36.7 NCEs. This contrasted favorably to the progress of the non-adversely affected student group whose average spring, 1986 score remained nearly the same at 50.3 NCEs, yielding a net gain of .1 NCE. These findings indicate that, although the average reading achievement of the adversely affected student lags behind that of the non-adversely affected student, the gap between the adversely and non-adversely affected student is narrowing. This is a positive sign. Average end-of-year and average school-year change scores in reading comprehension for adversely and non-adversely affected students are displayed graphically in Figures 6 and 7 and in statistical detail in Tables 9 and 10.

Insert Figures 6 and 7, and Tables 9 and 10 here

Table 8

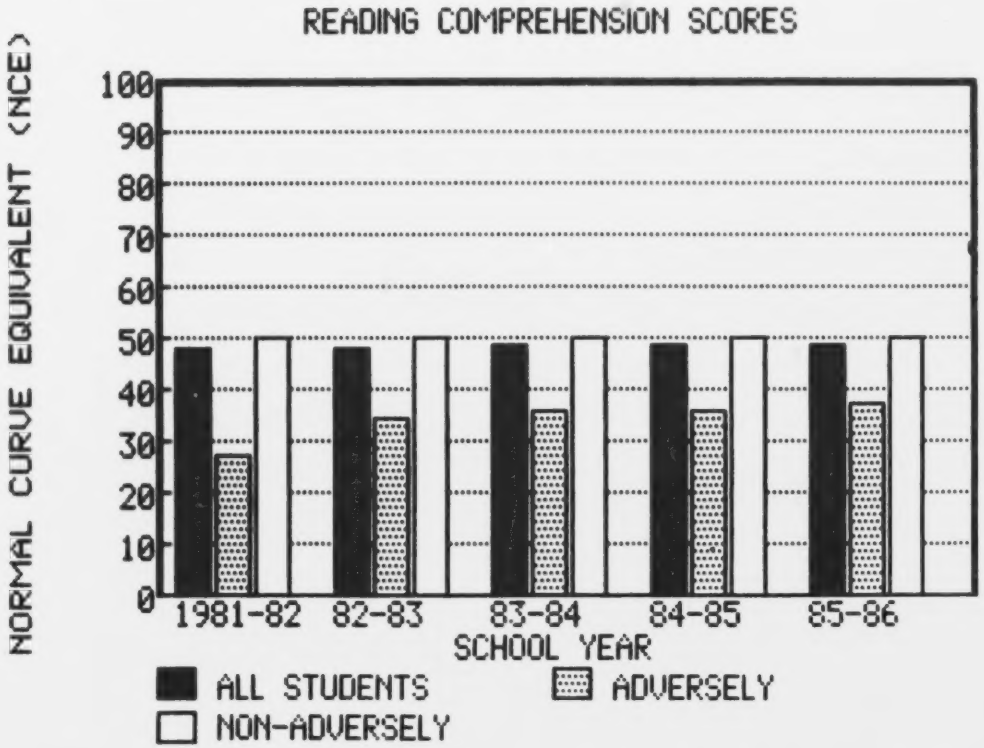
Percent (with total number) of 1982-1986 Students* in Each Student Group by Sex

Student Group Type	Sex: Male	Female	Combined Total
Adversely Affected	59.3 (1,389)	40.7 (954)	100.0 (2,343)
Non-Adversely Affected	48.3 (10,295)	51.7 (11,011)	100.0 (21,306)
Combined Total	49.4 (11,684)	50.6 (11,965)	100.0 (23,649)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 as a result represent only those students who have been nonpromoted one or two times. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

Figure 6

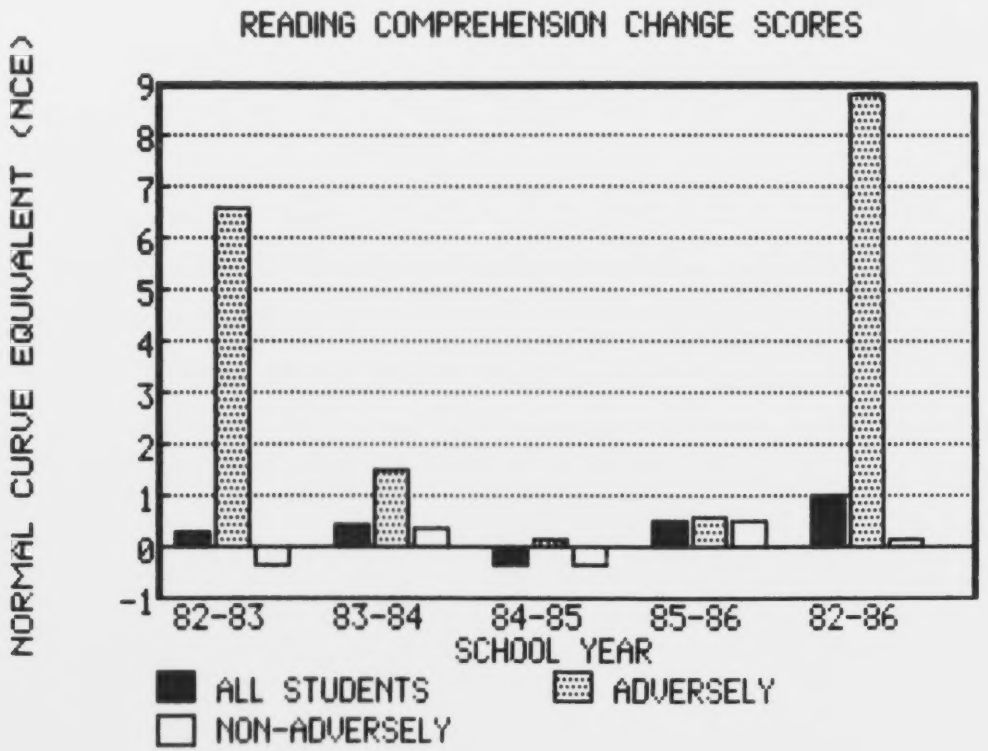
Average CTBS Reading Comprehension End-of-Year Normal Curve Equivalent (NCE) Scores for the Cleveland Public Schools for 1982-1986*: A Comparison Between Adversely Affected and Non-Adversely Affected Students



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result.

Figure 7

Average CTBS Reading Comprehension Normal Curve Equivalent (NCE) Change Scores for the Cleveland Public Schools for 1982-1986*: A Comparison Between Adversely Affected and Non-Adversely Affected Students



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result.

Table 9

Average Spring CTBS Reading Comprehension NCE Scores (and Number of Students)* by Adversely Affected Group

Student Type	School Year				
	1981-1982	1982-1983	1983-1984	1984-1985	1985-1986
Adversely Affected	27.8 (2,343)	34.5 (2,166)	35.9 (2,343)	36.3 (2,127)	36.7 (2,343)
Non-Adversely Affected	50.2 (21,306)	50.0 (20,047)	50.2 (21,301)	50.0 (20,120)	50.3 (21,306)
All Students	48.0 (23,659)	48.5 (22,213)	48.8 (23,644)	48.7 (22,247)	49.0 (23,649)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

Table 10

Average CTBS Reading Comprehension NCE Gain (Change) Scores (and Number of Students)* by Adversely Affected Group

Student Type	School Year				
	1982-1986	1982-1983	1983-1984	1984-1985	1985-1986
Adversely Affected	+8.97 (2,343)	+6.59 (2,166)	+1.51 (2,166)	+.18 (2,147)	+.58 (2,127)
Non-Adversely Affected	+.15 (21,306)	-.35 (20,047)	+.36 (20,044)	-.35 (20,115)	+.49 (20,120)
All Students	+1.02 (23,659)	+.33 (22,213)	+.47 (22,210)	-.30 (22,242)	+.50 (22,247)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

A more complete discussion of adversely affected students is contained in the last two adversely affected reports produced by the school district. The most recent report was dated November, 1986 and is titled: An Analysis of 1982 to 1986 Reading Comprehension Achievement Results for Adversely Affected Students in the Cleveland Public Schools.

Adversely affected student summary. The adversely affected students, in contrast to the non-adversely affected students, have a greater proportion of blacks and a greater proportion of males. The typical non-adversely affected student in the Cleveland City Schools who is tested ranks close to the national average in terms of reading comprehension achievement (50.2 NCEs for 1982 and 50.3 NCEs for 1986). This is not so for the adversely affected student, whose average reading comprehension score was 27.8 NCEs in 1982 and 36.7 NCEs in 1986.

Although the reading comprehension achievement gap between the adversely affected and non-adversely affected students has narrowed from spring of 1982 to spring of 1986 (system-wide and for every type of school), the remaining achievement gap between these two student groups is still educationally significant. The trend is positive and encouraging, but more remains to be accomplished.

Sex Based Comparisons of Reading Comprehension Achievement

Historically in the school district there have been achievement differences between male and female students, and the results of this study are similar. The average end-of-year reading comprehension NCE score for male students was 46.2 in 1985-1986 and 1.6 NCEs greater at 47.8

in 1985-1986. For female students this was 49.7 and 50.1 NCEs, respectively, for an average increase of .4 NCEs. Although female students continue to score better than male students, this female advantage for this multi-year matched group has gradually decreased from 3.5 NCEs in 1981-1982 to 2.3 NCEs in 1985-1986. This narrowing of the gap between male and female reading scores is due to the greater increase in the average male reading achievement score. These average reading comprehension end-of-year and change scores are presented in greater detail in Tables 11 and 12, respectively.

Insert Tables 11 and 12 here

Attendance and Academic Achievement

Each of the three prior Discrepant Reading Studies as well as each of the Attendance Issues Studies completed for the Cleveland City Schools since 1980-1981 have found a very strong relationship between student attendance and student achievement. This relationship has been presented in a variety of descriptive as well as highly technical ways. This strong relationship has again been found in this present study.

It has been consistently found, for instance, that the average daily attendance rate declines from elementary school to junior high school to senior high school. In 1985-1986, for example, the average daily attendance rate was 92.1% for elementary schools (92.2% for boys vs.

Table 11

Average Spring CTBS Reading Comprehension NCE Scores (and Number of Students)* by Sex

Sex	School Year				
	1981-1982	1982-1983	1983-1984	1984-1985	1985-1986
Male	46.2 (11,684)	47.0 (10,946)	47.7 (11,693)	47.5 (11,006)	47.8 (11,694)
Female	49.7 (11,965)	50.0 (11,279)	49.9 (11,966)	49.9 (11,254)	50.1 (11,970)
All Students	48.0 (23,649)	48.5 (22,225)	48.8 (23,659)	48.7 (22,260)	49.0 (23,664)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

Table 12

Average CTBS Reading Comprehension NCE Gain (Change) Scores (and Number of Students)* by Sex

Sex	School Year				
	1982-1986	1982-1983	1983-1984	1984-1985	1985-1986
Male	+1.63 (11,684)	+.56 (10,939)	+.90 (10,945)	-.41 (11,005)	+.56 (11,006)
Female	+.43 (11,965)	+.11 (11,274)	+.05 (11,277)	-.18 (11,250)	+.45 (11,254)
All Students	+1.02 (23,649)	+.33 (22,213)	+.46 (22,222)	-.29 (22,255)	+.50 (22,260)

* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result. A lay person might think of the normal curve equivalent score (NCE) as a technically improved percentile rank score, for ease of interpretation. It is also nationally normed.

92.1% for girls; 93.02% for blacks vs. 89.8% for whites), 81.5% for junior high schools (81.0% for boys vs. 82.0% for girls; 85.6% for blacks vs. 71.0% for whites), and 77.5% for senior high schools (76.7% for boys vs. 78.4% for girls; 79.7% for blacks and 70.7% for whites).

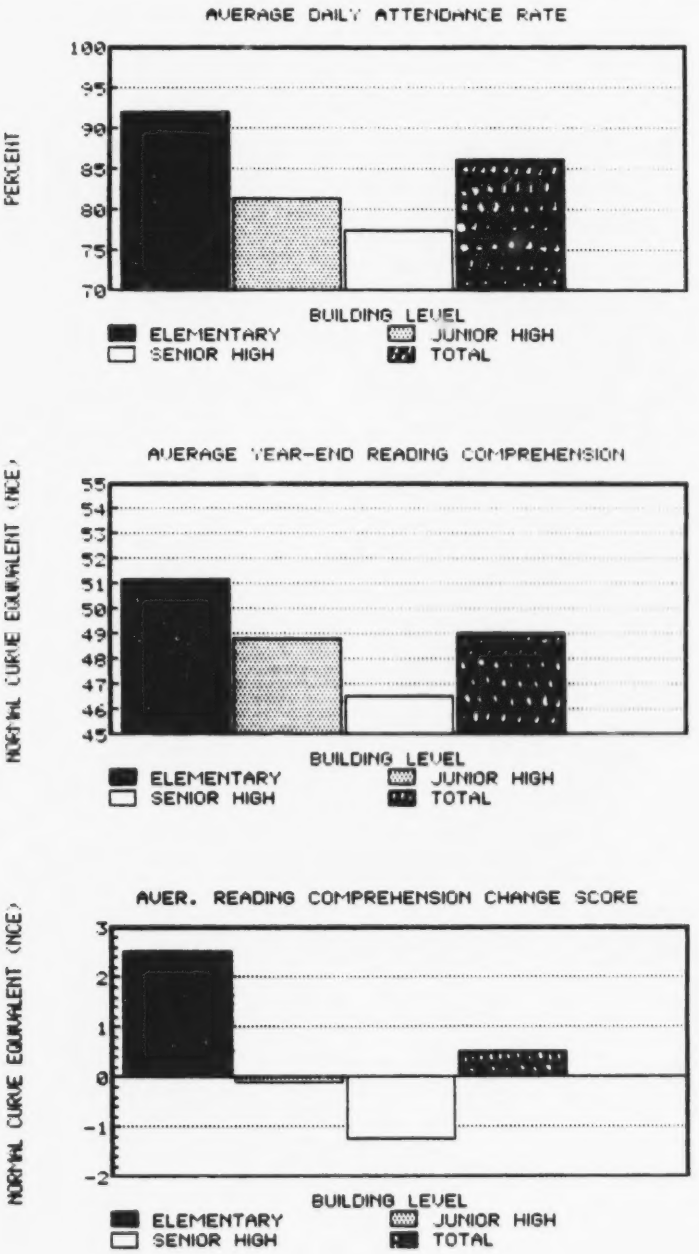
For this matched multi-year sample of students, Table 1 shows a corresponding decline in average year-end reading comprehension NCE scores through subsequent building levels. The average 1985-1986 year-end CTBS reading comprehension score for elementary schools was 51.2 NCEs, for junior high schools was 48.8 NCEs, and for senior high schools was 46.5 NCEs. A similar pattern was found (see Table 2) for average school year reading comprehension gain (change) scores: +2.53 NCEs for elementary schools, -.09 NCE for junior high schools, and -1.25 NCEs for senior high schools. These downward trends correspond between attendance rates, and average year-end and school year gain (change) scores, by building level, and this correspondence is graphically displayed in Figure 8.

Insert Figure 8 here

The topic of attendance as it relates to student achievement, suggests several additional issues. Among these are the interrelated promotion/retention issue and the dropout issue. In a certain sense the dropout problem is the ultimate attendance problem. The average reading scores--which have been computed and displayed in this report--of course do not include those of dropouts or of the chronic truants who could not be tested. These omissions almost certainly inflate the average scores

Figure 8

A Comparison of 1985-1986 Average Daily Attendance (A.D.A.) Rates in Percent, and Average CTBS Normal Curve Equivalent (NCE) Reading Comprehension Year-End and Change Scores*, by Building Level



* This represents the population of students enrolled in 1982, 1984, and 1986; who took one or more parts of the reading test in all three years; and for whom the other required data was available. Grades 3 and 4 represent only those students who have been nonpromoted one or two times, as a result.

obtained. (See the 1982-1984 Adversely Affected Student Study for more detail, particularly Table 6.) Although these considerations also affect other school districts, the impact of such score exclusions on district-wide averages depends on the severity of the dropout and attendance problems.

If the recent past history is repeated, then of those who enter the Cleveland City Schools in the first grade, approximately one-half can be expected to drop out before graduation from high school. Since less than one percent drop out in grades K through 6, nearly half of those entering seventh grade will drop out of school before graduating. Because over two-thirds of all dropouts do so for the reason of being overage, the dropout problem probably begins in the first grade a student is retained. (See the 1982-1984 Adversely Affected Student Study for more detail, particularly Table 7.) The first grade of non-promotion is typically in elementary school, and is caused primarily by the student's inability to perform at grade level. Typically, lack of subject matter success in school is followed by increasing absenteeism. And the more a child is absent, the more likely that same student's academic achievement will fall off further. Thus, a vicious downward spiral is set in motion. Finally, the child drops out of school altogether when he/she becomes sufficiently discouraged or overage. These facts and dynamics again raise the issue of whether or not a policy of social promotion might, on balance, be a justifiable partial solution to the dropout problem, as well as to related achievement and promotion issues and policy concerns.

Where student interest in school can be enhanced, and when academic achievement in basic areas such as reading comprehension can be

raised--particularly among the lowest achievers in the earliest grades--there also will be realistic hope that attendance will improve and that the dropout rate will be reduced. When this happens, it will benefit the black and adversely affected students in particular, since they are currently at greatest risk in the areas of poor academic achievement, absenteeism and dropping out of school.

Selected Analyses for 1985-1986

A data base was created which included those students in the Cleveland City Schools having spring 1984, 1985 and 1986 CTBS reading scores. From this file several special 1985-1986 school year analyses were done.*

Relationship between average daily attendance rate and reading comprehension achievement level for 1985-1985. Students in the Cleveland City Schools were grouped in terms of their level of performance on the spring, 1986 CTBS Reading Comprehension test. Three groups were formed. The bottom third group contained those students who scored at or below the 33rd percentile on the reading comprehension subtest, using national norms. The top third group contained those students scoring at or above

---

* Those analyses dealing with the spring, 1982 through spring, 1986 data were limited to those students having spring 1982, 1984 and 1986 reading data. Those analyses for the 1985-1986 school years were restricted to those students having spring 1984, 1985, and 1986 (pre-post match for both 1984-1985 and 1985-1986 school years) reading test data. Also various analyses may have somewhat different totals than these because other indicators such as sex, race, grade level, etc. might not be available for these records. It must be remembered throughout this study that these types of electronic data file shortfalls will and do result in some of the totals in various tables not being equal.

the 67th percentile. The middle third group contained those students scoring between the bottom and top third groups. These top, middle, and bottom third groups were further broken down in terms of their race and sex subgroups, and compared and contrasted in terms of their attendance rates. Considering all students together, the top third reading group had a greater average daily attendance rate (ADA) than the middle third group, and the middle group had a greater ADA rate than the bottom third group. This was also true for each of the five racial groups. See Table 13 for more detail.

Similar top to bottom thirds trends were also found for both male and female students. Top third reading achievement boys and girls were found to have a higher ADA rate than bottom third students, and this was found true in top to bottom third comparisons for all racial groups within each sex. See Table 14 for more statistical detail.

Asian and Pacific Islanders clearly had the highest ADA rate of any racial group, as was also true in 1984-1985. Blacks were the only other racial group which consistently had an ADA rate above the overall average. Whites had the lowest overall ADA rate (as was also the case in 1984-1985) of any reading group sorted by race. Sex based bottom, middle, and top reading achievement groups broken down by race had fairly comparable ADA rates. See Tables 13 and 14 for more statistical detail.

Insert Tables 13 and 14 here

Table 13

Average Daily Attendance Rates (in Percent) by Race and by CTBS Reading Comprehension Posttest Based Student Achievement Groups (Bottom, Middle, and Top Thirds) in the 1985-1986 Cleveland City Schools*

Race	Bottom Third Reading Group	Middle Third Reading Group	Top Third Reading Group	All Students
Black	90.7	92.9	94.3	
White	86.5	88.8	90.6	
Hispanic	87.9	90.3	92.3	
Native American (Indian or Eskimo)	87.3	90.7	94.0	
Asian or Pacific Islander	93.9	95.3	97.0	
All Students	89.9	92.0	93.2	91.8

* This student sample is limited to those students having CTBS reading test scores for springs of 1984, 1985, and 1986.

Table 14

Average Daily Attendance Rates (in Percent) by Sex and Race within Reading Comprehension Posttest Based Student Achievement Groups (Bottom, Middle and Top Thirds) in the 1985-1986 Cleveland City Schools*

Sex	Race	Bottom Third Reading Group	Middle Third Reading Group	Top Third Reading Group	All Students
Male		90.3	92.3	93.2	
	Black	91.2	93.1	94.2	
	White	86.4	89.3	90.9	
	Hispanic	88.4	90.3	92.8	
	Native American	87.0	92.5	95.2	
	Asian	91.8	94.8	97.1	
Female		89.5	91.8	93.2	
	Black	90.2	92.7	94.4	
	White	86.6	88.3	90.4	
	Hispanic	87.3	90.2	91.9	
	Native American	88.2	88.3	92.8	
	Asian	95.5	95.8	96.9	
All Students		89.9	92.0	93.2	91.8

* This student sample is limited to those students having CTBS reading test scores for springs of 1984, 1985, and 1986.

Various other comparisons between 1985-1986 bottom, middle, and top one-third reading comprehension achievement student groups. A consultant to the Office of School Monitoring and Community Relations (OSMCR) has suggested that bottom, middle, and top one-third reading comprehension achievement student groups be identified, described, and compared. These as well as other useful analyses, have been done selectively in the preceding analytic sections. The present section gives additional information describing and contrasting the top, middle, and bottom one-third reading groups.

A much greater proportion of the adversely affected students in contrast to the non-adversely affected students, were in the bottom one-third reading group. More than one-half (57.7%) of all adversely affected students were in the bottom one-third reading group, compared with less than one-fourth (22.0%) of the non-adversely affected student group. This is consistent with other information presented elsewhere on adversely affected students.

With respect to race, a significantly greater proportion of the black students were found in the lowest one-third (26.4%) than white students (19.1%)--although these results for 1985-1986 are somewhat more favorable than for 1984-1985. Likewise in 1985-1986, a lesser proportion of blacks (24.4%) were found in the top one-third group than were whites (36.3%). For each racial group except for blacks and Hispanics, it was again found for 1985-1986 that a greater percent of the students were in the top one-third reading group than in the bottom one-third. In contrast with 1984-1985 findings, this was not true for both males and females. This was only true for males. For every female racial group there were proportionately more females in the top one-third reading group than in

the bottom third reading group for 1985-1986. These findings show that more teaching/learning work needs to be done to raise the reading achievement of black and Hispanic males in particular, and is consistent with other research on this topic.

For those in the top one-third group in terms of their spring, 1985 reading comprehension score (posttest), they gained significantly more in their reading achievement during the year than did those who were in the bottom one-third posttest group. It is quite comprehensible to find that those who gained more in reading achievement also ended up at a higher reading achievement level.

To this point in this present 1985-1986 analysis, organizational dimensions have only been lightly touched. There are significant differences between building types, grade levels, and organizational clusters with respect to student reading comprehension achievement.

As in 1984-1985, only in the elementary schools did more students achieve well enough to place in the top one-third group vs. the bottom one-third group (31.9% vs. 20.4%). Special schools and institutions (magnet schools, and the like) had 24.7% of their students in the top one-third group vs. 27.6% in the bottom one-third group, followed by junior high schools with 20.1% vs. 29.1%, and senior high schools with 20.0% vs. 34.0%.

A further examination of one-third groups was done by grade level. A greater proportion of students were in the top one-third reading group than in the bottom one-third reading group at grades 1 through 6. As in 1984-1985, the worst results came in grade 11. In grade eleven 38.1% of the students scored in the bottom one-third, with only 15.9% scoring in the top one-third in terms of reading comprehension.

Although it is interesting and useful to view reading achievement on a citywide basis by race, sex, adversely affected status, building type, grade level, and the like, it is equally interesting and useful to examine differences between organizational clusters and buildings. It has been shown in preceding analyses that there are significant differences in reading achievement between schools, and within each building level as well as between building levels by school (See Appendix A). In this present analysis it was found that there is also a significant difference between the geographically based (rezone) organizational clusters in terms of the proportion of students falling within the bottom, middle, and top reading achievement groups. The Kennedy/Marshall and Collinwood clusters, as was also true for 1984-1985, had a greater proportion of their students placing in the top one third group than in the bottom one-third group (2,654 for 33.3% vs. 1,570 for 19.7%, and 33.1% vs. 17.9%, respectively). During 1985-1986 the Adams/Rhodes and Hay/West Tech clusters also had a greater proportion of their students placing in the top one-third group than in the bottom one-third group (1,944 for 28.3% vs. 1,600 for 23.3%, and 2,424 for 26.5% vs. 2,228 for 24.4%, respectively). Each of the other clusters had proportionately more students in the bottom one-third reading group than in the top third. See Appendix B for more statistical detail.

These types of findings suggest that strategies for reading improvement be focused on organizational divisions and units such as building level, grade level, organizational clusters, and specific school buildings) as well as on certain student types based on such student characteristics as race, sex, and adversely affected status.

Using Parity Study criteria for 1985-1986 school year data analyses. Compliance with the court order resulted in a Parity Study designed by a consultant and carried out by school district personnel. The Parity Study was focused specifically on those students who scored above the 33rd percentile in contrast to those who scored at or below the 33rd percentile. Although such dichotomization does mask differences in the distribution of scores within each of these two groups, the dichotomization does perhaps enhance the broader understandability of the results due to the simplification. This grouping system was used on the pretest and posttest data for 1985-1986. Those students who scored at or below the 33rd percentile on both the pretests and posttests, as well as those who scored above the 33rd percentile on both of these tests represented no change. Therefore, those moving from at or below the 33rd percentile to above it were identified, counted and contrasted with those moving from above, to at or below, by both school level and type and by school building within school type category.

It was found that the proportion of those students moving from below to above the 33rd percentile in contrast to the proportion moving from above to below decreased as students moved up through the building levels, with special schools having the least favorable outcome in this regard. The percent moving from above to below and below to above for elementary, junior high, senior high, and special schools and institutions was 46.9%, 50.7%, 53.4% and 58.3% (above to below 33rd percentile) vs. 53.1%, 49.3%, 46.6%, and 41.7% (below to above 33rd percentile), respectively. These results differed from those obtained for the 1983-1984 school year where senior high school students did most

favorably, with special schools and institutions being the only types of schools where more students moved from above to below than from below to above the cut score; and from the 1984-1985 school year results where junior high school students did much more unfavorably than in any of the other three building types. Overall for 1984-1985, 48.2% moved in a positive direction in contrast to 50.2% moving in a negative direction across the cut score. For 1985-1986 the overall outcome was somewhat more favorable at 50.7% of the students moving across the cut score in a positive direction in contrast to 49.3% moving in a negative direction across the cut score. This is a moderately favorable outcome, since the district has a mandate to do better than simply maintain the status quo. Clearly, however, more can be done.

Significant differences were found between schools, within every building type. If we look at all students moving across the 33rd percentile cut score from pretest to posttest, building by building, it is possible to identify those buildings with exemplary performance and those in need of improvement. Of the one-hundred and twenty-seven (127) schools meeting the criterion (i.e., having more than five students moving either way across the cut score), twenty-seven (27) had more than sixty percent of all such transition students moving from below to above the cut score, a net positive result. These included twenty-three (23) elementary schools, two (2) junior high schools, two (2) senior high schools, and no (0) special (magnet) schools. Two elementary schools (Bolton and M.M. Bethune) and one senior high school (Collinwood) achieved this positive result in both 1984-1985 and 1985-1986 school years. In contrast, twenty-three (23) other schools had over sixty percent of all such

transition students move in a negative direction, from above the cut score to below the cut score. Improvements are clearly called for in these twenty-three schools. These included fourteen (14) elementary schools, three (3) junior high schools, and three (3) senior high schools, and three (3) special (magnet) schools. Two elementary schools (J.F. Landis and R.G. Jones), three junior high schools (Willson, W. Young, and F.D. Roosevelt), and one special school (Jane Addams) achieved this unfavorable distinction in both the 1984-1985 and 1985-1986 school years. These results are compiled and presented by each building type in Table 15. Every school in the school system participating in citywide testing is individually identified and described in these terms in Appendix A. These individual school identities and descriptions can be used to plan reading comprehension achievement improvements in and for the twenty-three schools most in need. Those setting curriculum priorities in and for those schools should review the status given reading and other language arts coursework in view of these findings. Good language skills are basic to any educational success.

Insert Table 15 here

Project perform during the 1985-1986 school year. Overall, the reading comprehension gains were greater for students in Project Perform elementary and junior high schools than in the remaining schools at those same levels (+.33 NCE vs. .01 NCE, and +.72 vs. -.52 NCE, respectively). This suggests that the various staff development efforts in Project

Table 15

Percent (and Number*) of 1985-1986 Cleveland Public Schools by Building Type, Categorized by the Percent of the Total Transition Students** in the School Who Moved Across the 33rd Percentile Cut Score in a Positive Direction

School Building Categorization Based on the Percent of the Transition** Students in the School Who Moved Positively Across the Cut Score (33rd Percentile)		Percent of Schools (with Number of Schools)			
		Elementary	Junior High	Senior High	Special Schools
	80 - 84.9%	1.2% (1)			
	75 - 79.9%	5.9% (5)			
	70 - 74.9%	5.9% (5)			
	65 - 69.9%	7.1% (6)	4.3% (1)	8.3% (1)	
	60 - 64.9%	8.2% (7)	8.7% (2)	8.3% (1)	
	55 - 59.9%	14.1% (12)	13.1% (3)		
	50 - 54.9%	22.3% (19)	30.5% (7)	25.0% (3)	
	45 - 49.9%	5.9% (5)	17.4% (4)		42.9% (3)
	40 - 44.9%	12.9% (11)	4.3% (1)	33.4% (4)	14.2% (1)
	35 - 39.9%	7.1% (6)	4.3% (1)	8.3% (1)	
	30 - 34.9%	4.7% (4)	13.1% (3)	16.7% (2)	42.9% (3)
	25 - 29.9%	3.5% (3)	4.3% (1)		
	20 - 24.9%	1.2% (1)			
Totals	20 - 84.9%	100.0% (85)	100.0% (23)	100.0% (12)	100.0% (7)

* Schools having a combined total of less than five students moving across the 33rd percentile cut score in either direction were omitted.

** Transition students are the sum total of all students who, from pretest to posttest, moved from above to below or below to above the 33rd percentile (cut score). All of the remaining students had both pretest and posttest scores either: a) below the 33rd percentile, or b) above the 33rd percentile.

Perform schools resulted in a somewhat greater overall school effectiveness as indicated by student reading achievement gain scores.

The average reading comprehension pretest and posttest scores for Project Perform elementary school students were slightly lower (51.3 NCEs vs. 52.6 NCEs, and 52.0 NCEs vs. 53.0 NCEs, respectively), as were the average pretest and posttest scores for Project Perform junior high school students (46.3 NCEs vs. 47.8 NCEs, and 47.6 NCEs vs. 48.1 NCEs, respectively). The student body represented by this test data in the Project Perform schools is 51.3% male and 48.7% female, in contrast to 51.6% male and 48.4% female in the remaining schools at comparable grade levels. Race composition comparisons between Project Perform and non-Project Perform schools is: 69.5% vs. 71.1% for blacks, 24.9% vs. 25.0% for whites, 4.6% vs. 2.6% for Hispanics, .7% vs. .7% for Asians, and .3% vs. .4% for native Americans.

Possible beneficial effects on staff morale and school climate remain unmeasured in this study. The initiatives taken in Project Perform to achieve more effective schools justifies cautious optimism. This social system approach to improving the quality of education on a building by building basis deserves further trial and refinement. The term "cautious optimism" is used because it has been found that this approach may yield the desired results in some buildings but not in others, for a variety of reasons. When this becomes the case, then decision-makers should be open to accommodating this information rather than opting for either collapsing the whole project or forcing it on schools where it is not yielding results.

ANALYTIC SUMMARY

The purpose of this study was to analyze and interpret spring, 1986 and prior years citywide reading data so that accurate and usable information and recommendations would be available for the related planning, curriculum design, and implementation functions of the district.

It was found that the average student in the Cleveland City Schools during 1985-1986 maintained but did not significantly improve his/her reading achievement position relative to comparable students in a national sample. For the first time, during 1985-1986, the average reading comprehension score of the adversely affected students was above the 33rd percentile, with the remaining students again averaging at about the 50th percentile. The adversely affected student average score has increased every year from 1982 through 1986. As was the case in 1984-1985, the 1985-1986 Asian and Pacific Islander racial group scored the highest average pretest, posttest and gain score of any racial group, with the Hispanics and blacks scoring the lowest. In 1985-1986 it was again true, for each race and sex group, that those having better reading comprehension achievement scores also had a higher average daily attendance rate. In general, girls scored higher in reading comprehension than boys. There were also proportionately more boys in the adversely affected group. The bulk of the slightly negative reading comprehension achievement results for the school district during 1985-1986 can be attributed primarily to twenty-three schools. For every two students (in each of these twenty-three schools) who moved from below to above the 33rd percentile in reading, there were more than three students who moved

across the 33rd percentile in a negative direction. For 1985-1986 there continued to be a significant drop in average reading scores in the articulation grades--particularly at grade 7. This result was found in each of the school years since 1980-1981. During 1985-1986 the bottom one-third reading group again had a significantly greater proportion of adversely affected students, as well as black and Hispanic students. The Kennedy/Marshall, Collinwood, Adams/Rhodes, and Hay/West Tech clusters were the only clusters having a greater proportion of their students placing in the top one-third group than in the bottom one-third during 1985-1986. Kennedy/Marshall and Collinwood also achieved this distinction during 1984-1985. Reading comprehension gains during 1985-1986 were again somewhat greater in Project Perform schools than in the comparison schools, although reading vocabulary gains were not.

RECOMMENDATIONS

More effective strategies for reducing the nonpromotion rate (especially in the early grades), dropout rate, and student absenteeism should be identified, implemented and evaluated at the building level. The current twenty-three schools identified as having the most deficient student reading progress should be earmarked for supervisory and administrative attention, assistance and corrective action. Holistic social systems strategies for increasing the effectiveness of schools (such as used in Project Perform) should continue to be developed and improved, and used in those schools where such use has yielded positive results. Increased effectiveness of achievement related building level oriented articulation programs should continue to be developed and implemented. Even more effective ways of accelerating the academic achievement (especially in reading) of the adversely affected students need to be identified, developed, implemented, and evaluated at the building level. A districtwide implementation and evaluation plan needs to be developed, too. Programs which accommodate Hispanic cultural and language heritage as well as educate for entry of Hispanics into the occupational mainstream should be created, implemented and evaluated at district, cluster, and building levels. Renewed strategies for identifying programs which will effectively challenge average and above average/gifted students to excel should be jointly identified, developed, implemented and evaluated by staff at the district, cluster and building levels. Finally, the Division of Testing and Evaluation, in consultation with user and consumer groups, should continually review and evaluate all tests used citywide in terms of the broad range of validity, reliability, and practical/utility issues.

ACKNOWLEDGEMENTS

This fourth discrepant reading study was authored by Dr. S. James Zafirau; Manager; Division of Policy, Planning, and Analysis; Department of Research and Analysis; Cleveland City Schools; as were the first three discrepant reading studies. The first two discrepant reading studies were co-authored with Dr. Margaret Fleming, then Deputy Superintendent and Special Assistant to the Superintendent. Dr. Zafirau also developed the various research/evaluation strategies and designs, and created all of the computer programs used in obtaining the numerous statistical analyses. The computer readable data files used for this report were prepared by Dr. Zafirau, Linda Roberts, Dr. James Lanese, and Mike Gallagher. Pat Bogdanski prepared this report's typed copy, figures, and tables.

APPENDIX A

Explanatory Notes for the following pages of Appendix A:

- The "+" symbol, not enclosed in parentheses, is placed above a school's name and building number in the following crosstabulation grid network if more than 60% of the school's total transition students moved from below the 33rd percentile on the 1985-1986 pretest to above the 33rd percentile on the posttest. This is a very favorable outcome. Transition students are the sum total of all students who, from pretest to posttest, moved from above to below, or below to above, the 33rd percentile (cut score).

- The "*" symbol, not enclosed in parentheses, is placed above a school's name and building number if more than 60% of the school's total transition students moved from above the 33rd percentile on the 1985-1986 pretest to below the 33rd percentile on the posttest. This is not a very favorable outcome.

- If the "+" or "*" symbols are enclosed in parentheses then the definitions above apply except that such marks pertain to the 1984-1985 school year instead of the 1985-1986 school year.

* * * * * * * * * * * * * * * * * * * CROSSTABULATION OF * * * * * * * * * * * * * * * * * * *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY CSCHLEV
* * * * * * * * * * * * * * * * * * \

85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE &1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF * * * * * * * * * * * * * * * * * * *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

E5-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PREPOSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF * * * * * * * * * * * * * * * * * * *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF * * * * * * * * * * * * * * * * * * *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

* C R O S S T A B U L A T I O N O F *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 3 PUBLIC ELEMENTARY
* * * * * * * * * * * * * * * * * * * \

85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* C R O S S T A B U L A T I O N O F *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 4 PUBLIC JUNIOR HS
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF * * * * * * * * * * * * * * * * * * *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHND POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 4 PUBLIC JUNIOR HS
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF * * * * * * * * * * * * * * * * * * *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHND POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 4 PUBLIC JUNIOR HS
* * * * * * * * * * * * * * * * * * * \

85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.

FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF *

PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER

CONTROLLING FOR..

CSCHLEV VALUE.. 5 PUBLIC SENIOR HS

* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF *
PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER
CONTROLLING FOR..
CSCHLEV VALUE.. 5 PUBLIC SENIOR HS
* * * * * * * * * * * * * * * * * * * \

* CROSSTABULATION OF * * * * * * * * * * * * * * * * * * *

PARGROUP TYPE OF PRE TO POST MOVE ACROSS 33RD%ILE BY TSCHNO POST-T --SCHOOL NUMBER

CONTROLLING FOR..

CSCHLEV VALUE.. 6 SPECIAL SCHS&INST.

* * * * * * * * * * * * * * * * * * * \

APPENDIX B

* CROSSTABULATION OF *
T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS. BY RACE RACE OF STUDENT 1=I 2=W 3=B 4=O 5=H
CONTROLLING FOR..
SEX SEX OF STUDENT--AS CURRENTLY LISTED--M F VALUE.. 1 MALE
* * * * * * * * * * * * * * * * * * * \

85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF *
T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS. BY RACE RACE OF STUDENT 1=I 2=W 3=B 4=O 5=H
CONTROLLING FOR..
SEX SEX OF STUDENT--AS CURRENTLY LISTED--M F VALUE.. 2 FEMALE
* PAGE 1 OF 1

	RACE					
	COUNT / ROW PCT / COL PCT / TOT PCT	AMER IND OR ESKI 1	WHITE-NO T OF HIS 2	BLACK-NO T OF HIS 3	ASIAN OR PAC ISL 4	HISPANIC 5	ROW TOTAL
T2GRP3							
1	6	829	3951	23	177	4986
LO 33%TILE GRP-C	0.1	16.6	79.2	0.5	3.5	21.6
	11.5	17.2	22.7	15.9	24.2	
	0.0	3.6	17.1	0.1	0.8	
2	23	2147	8750	65	368	11353
MID.33%TILE GRP-	0.2	18.9	77.1	0.6	3.2	49.1
	44.2	44.6	50.4	44.8	50.4	
	0.1	9.3	37.9	0.3	1.6	
3	23	1842	4668	57	185	6775
HI 33%TILE GRP-C	0.3	27.2	68.9	0.8	2.7	29.3
	44.2	38.2	26.9	39.3	25.3	
	0.1	8.0	20.2	0.2	0.8	
COLUMN TOTAL	52	4818	17369	145	730	23114
	0.2	20.8	75.1	0.6	3.2	100.0

RAW CHI SQUARE = 266.51636 WITH 8 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0
CRAMER'S V = 0.07593
CONTINGENCY COEFFICIENT = 0.10677
LAMBDA (ASYMMETRIC) = 0.0 WITH T2GRP3 DEPENDENT. = 0.0 WITH RACE DEPENDENT.
LAMBDA (SYMMETRIC) = 0.0
UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.00540 WITH T2GRP3 DEPENDENT. = 0.00806 WITH RACE DEPENDENT.
UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.00647
KENDALL'S TAU B = -0.08635. SIGNIFICANCE = 0.0000
KENDALL'S TAU C = -0.06409. SIGNIFICANCE = 0.0000
CONDITIONAL GAMMA = -0.17290
SOMERS'S D (ASYMMETRIC) = -0.10931 WITH T2GRP3 DEPENDENT. = -0.06822 WITH RACE DEPENDENT.
SOMERS'S D (SYMMETRIC) = -0.08401
ETA = 0.10065 WITH T2GRP3 DEPENDENT. = 0.08337 WITH RACE DEPENDENT.
PEARSON'S R = -0.07868 SIGNIFICANCE = 0.0000

SUMMARY GAMMAS FOR CROSSTABULATION OF T2GRP3 BY RACE ZERO-ORDER GAMMA = -0.17962
FIRST-ORDER PARTIAL GAMMA = -0.18224

NUMBER OF MISSING OBSERVATIONS = 13309

* C R O S S T A B U L A T I O N O F *
ADVERSE ADVERSELY AFFECTED STUDENTS INDICATOR BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* * * * * * * * * * * * * * * * * * * \

85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF *
BIRACE BLACK=5 WHITE=6 MISSING DATA=-999 BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* * * * * * * * * * * * * * * * * * * \

BOARD OF EDUCATION-CLEVELAND CITY SCHOOL DISTRICT 01/27/87 PAGE 209
P5-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE P#PS1APR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* C R O S S T A B U L A T I O N O F *
RACE RACE OF STUDENT 1=I 2=W 3=B 4=O 5=H BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* PAGE 1 OF 1

RACE	COUNT / ROW PCT / COL PCT / TOT PCT	T2GRP3 1LO 33%TILE GRP-C 1	MID.33%TILE GRP- 2	HI 33%TILE GRP-C 3	ROW TOTAL
1		23	53	44	120
AMER IND OR ESKI		19.2	44.2	36.7	0.3
		0.2	0.2	0.3	
		0.0	0.1	0.1	
2		1907	4449	3629	9985
WHITE-NOT OF HIS		19.1	44.6	36.3	21.5
		16.6	19.9	28.7	
		4.1	9.6	7.8	
3		9161	17055	8468	34684
BLACK-NOT OF HIS		26.4	49.2	24.4	74.5
		79.6	76.1	67.1	
		19.7	36.6	18.2	
4		42	128	130	300
ASIAN OR PAC ISL		14.0	42.7	43.3	0.6
		0.4	0.6	1.0	
		0.1	0.3	0.3	
5		376	724	352	1452
HISPANIC		25.9	49.9	24.2	3.1
		3.3	3.2	2.8	
		0.8	1.6	0.8	
COLUMN TOTAL		11509 24.7	22409 48.1	12623 27.1	46541 100.0

RAW CHI SQUARE = 665.88184 WITH 8 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0
CRAMER'S V = 0.08458
CONTINGENCY COEFFICIENT = 0.11877
LAMBDA (ASYMMETRIC) = 0.0 WITH RACE DEPENDENT. = 0.00008 WITH T2GRP3 DEPENDENT.
LAMBDA (SYMMETRIC) = 0.00006
UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.00986 WITH RACE DEPENDENT. = 0.00662 WITH T2GRP3 DEPENDENT.
UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.00792
KENDALL'S TAU B = -0.09107. SIGNIFICANCE = 0.0000
KENDALL'S TAU C = -0.06856. SIGNIFICANCE = 0.0000
GAMMA = -0.17962
SOMERS'S D (ASYMMETRIC) = -0.07215 WITH RACE DEPENDENT. = -0.11496 WITH T2GRP3 DEPENDENT.
SOMERS'S D (SYMMETRIC) = -0.08866
ETA = 0.08499 WITH RACE DEPENDENT. = 0.11414 WITH T2GRP3 DEPENDENT.
PEARSON'S R =-0.08046 SIGNIFICANCE = 0.0000

NUMBER OF MISSING OBSERVATIONS = 13309

* CROSSTABULATION OF *
TGRADE BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* * * * * * * * * * * * * * * * * * * \

CROSSTABULATION OF TGRADE BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.

TGRADE	T2GRP3 COUNT / ROW PCT / COL PCT / TOT PCT	1 LO 33%TILE GRP-C	2 MID.33%TILE GRP-	3 HI 33%TILE GRP-C	ROW TOTAL
9		910	1861	801	3572
		25.5	52.1	22.4	7.7
		7.9	8.3	6.3	
		2.0	4.0	1.7	
10		1098	1473	646	3217
		34.1	45.8	20.1	6.9
		9.5	6.6	5.1	
		2.4	3.2	1.4	
11		994	1201	416	2611
		38.1	46.0	15.9	5.6
		8.6	5.4	3.3	
		2.1	2.6	0.9	
12		660	856	328	1844
		35.8	46.4	17.8	4.0
		5.7	3.8	2.6	
		1.4	1.8	0.7	
COLUMN TOTAL		11511 24.7	22414 48.1	12627 27.1	46552 100.0

RAW CHI SQUARE = 2067.66577 WITH 22 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0
CRAMER'S V = 0.14902
CONTINGENCY COEFFICIENT = 0.20622
LAMBDA (ASYMMETRIC) = 0.0 WITH TGRADE DEPENDENT. = 0.00319 WITH T2GRP3 DEPENDENT.
LAMBDA (SYMMETRIC) = 0.00122
UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.00930 WITH TGRADE DEPENDENT. = 0.02106 WITH T2GRP3 DEPENDENT.
UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.01290
KENDALL'S TAU B = -0.14015. SIGNIFICANCE = 0.0000
KENDALL'S TAU C = -0.15880. SIGNIFICANCE = 0.0000
GAMMA = -0.18524
SOMERS'S D (ASYMMETRIC) = -0.16713 WITH TGRADE DEPENDENT. = -0.11752 WITH T2GRP3 DEPENDENT.
SOMERS'S D (SYMMETRIC) = -0.13800
ETA = 0.17212 WITH TGRADE DEPENDENT. = 0.19028 WITH T2GRP3 DEPENDENT.
PEARSON'S R = -0.17146 SIGNIFICANCE = 0.0000

NUMBER OF MISSING OBSERVATIONS = 13298

85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF *
CSCHLEV BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* * * * * * * * * * * * * * * * * * * \

FILE PRFSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* C R O S S T A B U L A T I O N O F *
CCLUSTER SCHOOL CLUSTER FOR CURRENT YEAR--1981-82 BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* PAGE 1 OF 1

	T2GRP3			
	COUNT			
	ROW PCT	LO 33%TILE	MID.33%TILE	HI 33%TILE	ROW
	COL PCT	GRP-C	GRP-	GRP-C	TOTAL
	TOT PCT	1	2	3	
CCLUSTER					
1	1	594	1625	1100	3319
COLLINWCCD	01	17.9	49.0	33.1	7.2
		5.2	7.3	8.7	
		1.3	3.5	2.4	
2		1649	3058	1529	6236
EAST	02	26.4	49.0	24.5	13.5
		14.4	13.7	12.2	
		3.6	6.6	3.3	
3		1600	3318	1944	6862
ADAMS-RHODES	03	23.3	48.4	28.3	14.8
		14.0	14.9	15.5	
		3.5	7.2	4.2	
4		1570	3740	2654	7964
KENNEDY-MARSHALL		19.7	47.0	33.3	17.2
		13.7	16.8	21.1	
		3.4	8.1	5.7	
5		1909	2820	1220	5949
EAST TECH-SOUTH		32.1	47.4	20.5	12.9
		16.7	12.7	9.7	
		4.1	6.1	2.6	
6		1879	3218	1706	6803
GLENVILLE-LNCLN		27.6	47.3	25.1	14.7
		16.4	14.4	13.6	
		4.1	7.0	3.7	
7		2228	4496	2424	9148
HAY-WEST TECH	0	24.4	49.1	26.5	19.8
		19.5	20.2	19.3	
		4.8	9.7	5.2	
COLUMN		11429	22275	12577	46281
TOTAL		24.7	48.1	27.2	100.0

RAW CHI SQUARE = 602.07617 WITH 12 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0
CRAMER'S V = 0.08065
CONTINGENCY COEFFICIENT = 0.11332
LAMBDA (ASYMMETRIC) = 0.00619 WITH CCLUSTER DEPENDENT. = 0.0 WITH T2GRP3 DEPENDENT.
LAMBDA (SYMMETRIC) = 0.00376
UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.00341 WITH CCLUSTER DEPENDENT. = 0.00619 WITH T2GRP3 DEPENDENT.
UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.00439

```
BOARD OF EDUCATION-CLEVELAND CITY SCHOOL DISTRICT                    01/27/87        PAGE  220
85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
KENDALL'S TAU B = -0.03087.     SIGNIFICANCE =  0.0000
KENDALL'S TAU C = -0.03394.     SIGNIFICANCE =  0.0000
GAMMA = -0.04208
SOMERS'S D (ASYMMETRIC) = -0.03571 WITH CCLUSTER DEPENDENT.          = -0.02668 WITH T2GRP3   DEPENDENT.
SOMERS'S D (SYMMETRIC) = -0.03055
ETA =  0.03937 WITH CCLUSTER DEPENDENT.          =  0.11264 WITH T2GRP3   DEPENDENT.
PEARSON'S R =-0.03924  SIGNIFICANCE =  0.0000

NUMBER OF MISSING OBSERVATIONS = 13569
```

* CROSSTABULATION OF *
GAINGRP BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* PAGE 1 OF 1

GAINGRP	T2GRP3 1 LO 33%TILE GRP-C	2 MID.33%TILE GRP-	3 HI 33%TILE GRP-C	ROW TOTAL
1	6233	6229	2320	14782
D2NCE LE -7	42.2	42.1	15.7	31.8
	54.2	27.8	18.4	
	13.4	13.4	5.0	
2	3710	9943	4358	18011
D2NCE -7 TO +7	20.6	55.2	24.2	38.7
	32.2	44.4	34.5	
	8.0	21.4	9.4	
3	1566	6235	5946	13747
D2NCE GE 7	11.4	45.4	43.3	29.5
	13.6	27.8	47.1	
	3.4	13.4	12.8	
COLUMN TOTAL	11509 24.7	22407 48.1	12624 27.1	46540 100.0

RAW CHI SQUARE = 5337.26172 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0
CRAMER'S V = 0.23946
CONTINGENCY COEFFICIENT = 0.32075
LAMBDA (ASYMMETRIC) = 0.14410 WITH GAINGRP DEPENDENT. = 0.00017 WITH T2GRP3 DEPENDENT.
LAMBDA (SYMMETRIC) = 0.07814
UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.05116 WITH GAINGRP DEPENDENT. = 0.05313 WITH T2GRP3 DEPENDENT.
UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.05212
KENDALL'S TAU B = 0.28709. SIGNIFICANCE = 0.0000
KENDALL'S TAU C = 0.27889. SIGNIFICANCE = 0.0000
GAMMA = 0.43231
SOMERS'S D (ASYMMETRIC) = 0.29350 WITH GAINGRP DEPENDENT. = 0.28081 WITH T2GRP3 DEPENDENT.
SOMERS'S D (SYMMETRIC) = 0.28702
ETA = 0.31956 WITH GAINGRP DEPENDENT. = 0.31736 WITH T2GRP3 DEPENDENT.
PEARSON'S R = 0.31731 SIGNIFICANCE = 0.0000

NUMBER OF MISSING OBSERVATIONS = 13310

BOARD OF EDUCATION-CLEVELAND CITY SCHOOL DISTRICT 01/27/87 PAGE 225
85-86 DISCREPANT READING STUDY--ANALYSIS BY JIM ZAFIRAU, PH.D.
FILE PRPSTAPR (CREATION DATE = 01/27/87) 1984-85 PRE&1985-86 POST CTBS READING WITH 1985-86 APR

* CROSSTABULATION OF *
GAINGRP4 COMP.NCE GAIN GRPS- 1=LE-4 3=GE+4 2=MID. BY T2GRP3 IND.STUDENT PST.COMP.SCR.BASED 33% GRPS.
* * * * * * * * * * * * * * * * * * * \

REFERENCES

Akin, J. P. A study of the relationship of racial integration to reading achievement in grades two, three and five in Alexandria, Virginia, city public schools. Ed.D. dissertation, George Washington University, 1977. (ERIC Document Reproduction Service No. ED 159 265)

Armor, D. J. The evidence on desegregation and black achievement. Washington, D.C.: National Institute of Education, 1983. (ERIC Document Reproduction Service No. ED 239 000)

Baltzell, D. C. A longitudinal analysis of reading and arithmetic achievement and court-ordered desegregation (with "forced" busing) in a large urban school district in the south. Unpublished doctoral dissertation, University of Florida, 1976.

Belcher, M. Tutoring offers best return for hiking basic skills, study says. Education Daily, 1984, 17 (July 18), 1-2.

Biersner, R. J., & Larocco, J. M. Determinants of reading performance and achievement. Perceptual and Motor Skills, 1980, 50 (3), 715-721.

Bloom, B. S. The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. Educational Researcher, 1983, 13, 4-16.

Brimelow, P. Are we spending too much on education? Forbes, December 29, 1986, pp. 72-76.

Brophy, J. Successful teaching strategies for the inner city child. Phi Delta Kappan, 1982, 63, 527-530.

Brown, R. National Assessment Findings and Educational Policy Questions. No. SY-CA-53. Educational Commission of the States, 1983.

Burton, N. W., & Jones, L. V. Recent trends in achievement levels of black and white youth. Educational Researcher, 1982, 11, 10-17.

Cadenhead, K. Reading level: A metaphor that shapes practice. Phi Delta Kappan, February 1987, pp. 436-441.

Callaway B. Pupil and family characteristics related to reading achievement. Education, 1972, 92 (3), 71-75.

Callaway, B. Relationship of specific factors to reading. In International Reading Association Conference Proceedings, 1968, 13, 688-692. (ERIC Document Reproduction Service No. EJ 019 182)

Carbo, M. Reading Styles Research: 'What works' isn't always phonics, Phi Delta Kappan, February 1987, pp. 431-435.

Cook, T. D. What have black children gained academically from school desegregation: Examination of the metaanalytic evidence. Washington, D.C.: National Institute of Education, 1983. (ERIC Document Reproduction Service No. ED 239 004)

Crain, R. L., & Mahard, R. E. Desegregation and black achievement: A review of the research. Law and Contemporary Problems, 1978, 42, 17-56.

Crain, R. L., & Mahard, R. E. Research on school desegregation and achievement: How to combine scholarship and policy relevance. Educational evaluation and policy analysis, 1979, 1, 5-16.

Crane, T. A three year summary of Hartford Project Concern (a program of urban-suburban cooperation). Hartford: Connecticut State Department of Education, 1970. (ERIC Document Reproduction Service No. ED 047 064)

Deal, R. E., & Celotti, L. D. How much influence doe (and can) educational administrators have on classrooms? Phi Delta Kappan, 1980, 61, 471-473.

Dwyer, E. J. Analysis of reading achievement, listening comprehension, and paradigmatic language of selected second grade students by race and sex. Southern Journal of Educational Research, 1980, 14 (3), 205-218.

Evans, C. L. Desegregation study II: Academic effects on bused black and receiving white students, 1972-1973. Fort Worth, Texas: Fort Worth Independent School District, 1973. (ERIC Document Reproduction Service No. ED 159 265)

Findings from "what-works". Educational Leadership, September 1986, p. 9.

Freedman, M. Commentary: When honors students fail writing tests. Education Week, December 10, 1986, p. 16.

Goolsby, T. M., & Frary, R. B. Use of an individualized reading program under voluntary complete integration: Effects on third grade pupils and teachers. Athens, Georgia: Athens Center for Educational Improvement, 1971. (ERIC Document Reproduction Service No. ED 057 096)

Green, C. A. Product evaluation of the elementary and middle school reading and communication skills component of the Detroit desegregation court order. Detroit: Detroit Public Schools, 1981. (ERIC Document Reproduction Service No. ED 208 113)

Hanford, G. H. Memo to the members. The College Board, 1984, ?-5.

Hansen, C. F. The scholastic performances of Negro and white pupils in the integrated public schools of the District of Columbia. Washington, D.C.: Public Schools of the District of Columbia, 1963. (ERIC Document Reproduction Service No. ED 017 319#)

Howe, A. C. Pupil behaviors and interactions in desegregated urban junior high activity-centered science classrooms. Journal of Educational Psychology, 1983, 75, 97-103.

Jones, L. V. A comparative study of black and white students' scores on the National Assessment of Educational Progress, the Scholastic Aptitude Test, and the Graduate Record Examination. Paper presented to annual meeting of American Psychological Association, Anaheim, August, 1983. Cited in: Results of scholarly research that were reported last week. The Chronicle of Higher Education, September 5, 1983, p. 2.

Joyce, B., & McKibbin, M. Teacher growth states and school environments. Educational Leadership, 1982, 40 (November), 36-41.

Joyce, B., & Showers, B. Improving inservice training: The message of research. Educational Leadership, 1980, 37 (February), 379-385.

Joyce, B., & Showers, B. The coaching of teaching. Educational Leadership, 1982, 40 (October), 4-10.

Joyce, B., & Showers, B. Power in staff development through research on training. Association for Supervision and Curriculum Development, 1983.

Kaufman, N. L. Differential validity of reversal errors as predictors of first-grade reading achievement for blacks and whites. Psychology in the Schools, 1980, 17 (4), 460-465.

Kaufman, N. L., & Kaufman, A. S. Does item content (semantic vs. figural) affect reversal errors made by black and white first graders? Perceptual and Motor Skills, 1980, 50 (3), 993-994.

Kenney, J. B., & Anderson, H. E. A comparative study of selected black and white university sophomore students on a required reading test. Journal of Experimental Education, 1984, 53 (1), 20-28.

Klein, W., & Eshel, Y. Educational intervention in the early primary grades. New York: Ford Foundation, 1978. (ERIC Document Reproduction Service No. ED 164 683)

Levin, H. Cost-effectiveness of four educational interventions (Project Report No. 84-A11). Institute for Research on Educational Finance and Governance, Stanford University, 1984.

Levin, T., & Long, R. Effective instruction. Alexandria, Va.: Association for Supervision and Curriculum Development, 1981.

Levine, D. U. Successful approaches for improving academic achievement in inner-city elementary schools. Phi Delta Kappan, 1982, 61, 523-526.

Miller, N., & Carlson, M. School desegregation as a social reform: A meta-analysis of its effects on black academic achievement. Washington, D.C.: National Institute of Education, 1982. (ERIC Document Reproduction Service No. ED 239 005)

Moore, J. E. Product evaluation of the high school reading and communication skills component of the Detroit desegregation court order. Detroit: Detroit Public Schools, 1981. (ERIC Document Reproduction Service No. ED 208 114)

National Assessment of Educational Progress. NAEP Newsletter, 1983, 16, 1-2.

Natkin, G. L. The effects of busing on second grade students achievement scores. Boston: Annual Meeting of the American Educational Research Association, 1980. (ERIC Document Reproduction Service No. ED 197 008)

Oakland, T. Concurrent and predictive validity estimates for the WISC-R IQs and ELPs by racial-ethnic and SES groups. School Psychology Review, 1983, 12 (1), 57-61.

Ogbu, J. U. Minority education and caste: The American System. New York: Academic Press, 1978, 357-369.

Pascarella, E. T. Summative analysis of longitudinal student achievement data in a desegregated school district. San Francisco: American Educational Research Association Annual Conference, 1979. (ERIC Document Reproduction Service No. ED 173 486)

Purkey, S. C., & Smith, M. S. Effective schools--A review. Unpublished manuscript, Wisconsin Center for Education Research, School of Education, University of Wisconsin at Madison, 1982.

Purl, M. C. Social acceptance and academic behavior of desegregated minority children. In Claremont College Reading Conference 32nd Yearbook. Claremont, California: Claremont College, 1968. (ERIC Document Reproduction Service No. ED 019 258)

Rothman, R. Study links poor writing ability to lack of higher-order skills. Education Week, December 10, 1986, pp. 1-14.

SAT scores rise for the first time since 1963. In The College Board News, 1982, 1.

SAT mathematical scores rise again, but verbal scores fall one point. In The College Board News, 1983, 1.

Shoemaker, J., & Fraser, H. W. What principals can do: Some implications from studies of effective schooling. Phi Delta Kappan, 1981, 62, 178-182.

Simpson, R. G. The relationship between performance on the Wepman Auditory Discrimination Test and reading achievement among adolescents. Educational and Psychological Measurement, 1984, 44 (2), 353-358.

Squire, D. A., Huitt, W. G., & Segars, J. K. Effective schools and classrooms: A research-based perspective. Alexandria, Va.: Association for Supervision and Curriculum Development, 1983.

Stephan, W. G. Blacks and "Brown": The effects of school desegregation on black students. Washington, D.C.: National Institute of Education, 1983. (ERIC Document Reproduction Service No. ED 239 001)

United States District Court Monitoring Commission. Profiles of Detroit's high schools: 1975 to 1984. Detroit, Michigan: Detroit School District, 1984. (ERIC Document Reproduction Service No. ED 257 841)

Wilson, K. L. The effects of integration and class on black educational attainment. Sociology of Education, 1979, 52 (April), 84-98.

Wortman, P. M. School desegregation and black achievement: An integrative review. Washington, D.C.: National Institute of Education, 1983 (ERIC document Reproduction Service No. ED 239 003)

Zafirau, S. J., & Fleming, M. A study of discrepant reading achievement of minority and white students in a desegregating school district. Additional Findings; Phase Two, Phase Three, and Phase Five: Longitudinal Analysis of High and Low Achieving Students. Cleveland, Ohio: Cleveland City Schools, 1983. (ERIC document Reproduction Service No. ED 28 353)

Zafirau, S. J., & Fleming, M. A study of discrepant reading achievement of minority and white students in a desegregating school district: Phase IV. Cleveland, Ohio: Cleveland City Schools, 1983. (ERIC Document Reproduction Service No. ED 219 469)

Zafirau, S. J., & Fleming, M. A study of discrepant reading achievement of minority and white students in a desegregating school district: Phases one, two, and three. New York: Annual Meeting of the American Educational Research Association, 1982. (ERIC Document Reproduction Service No. ED 218 390)